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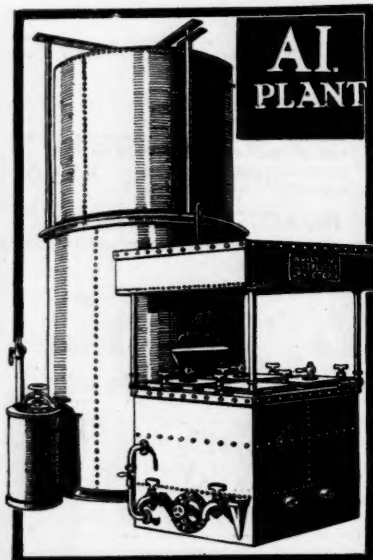
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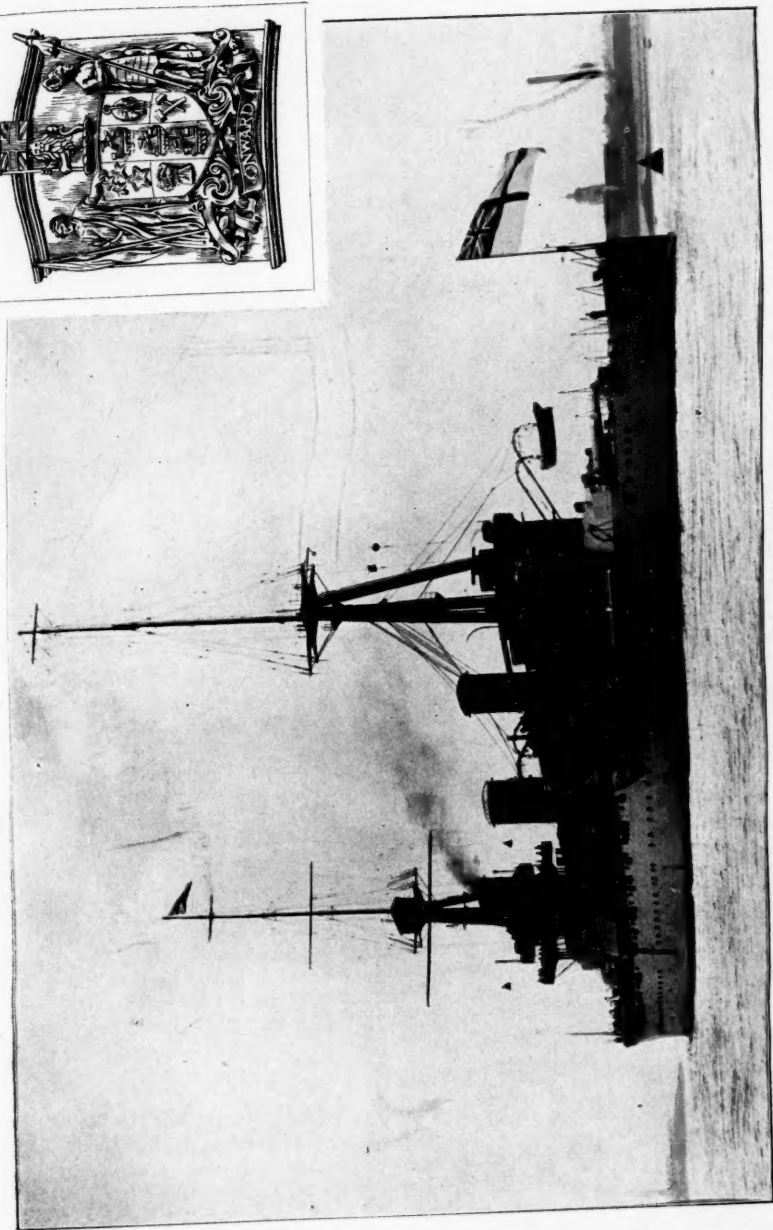
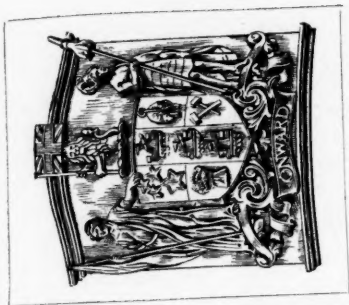
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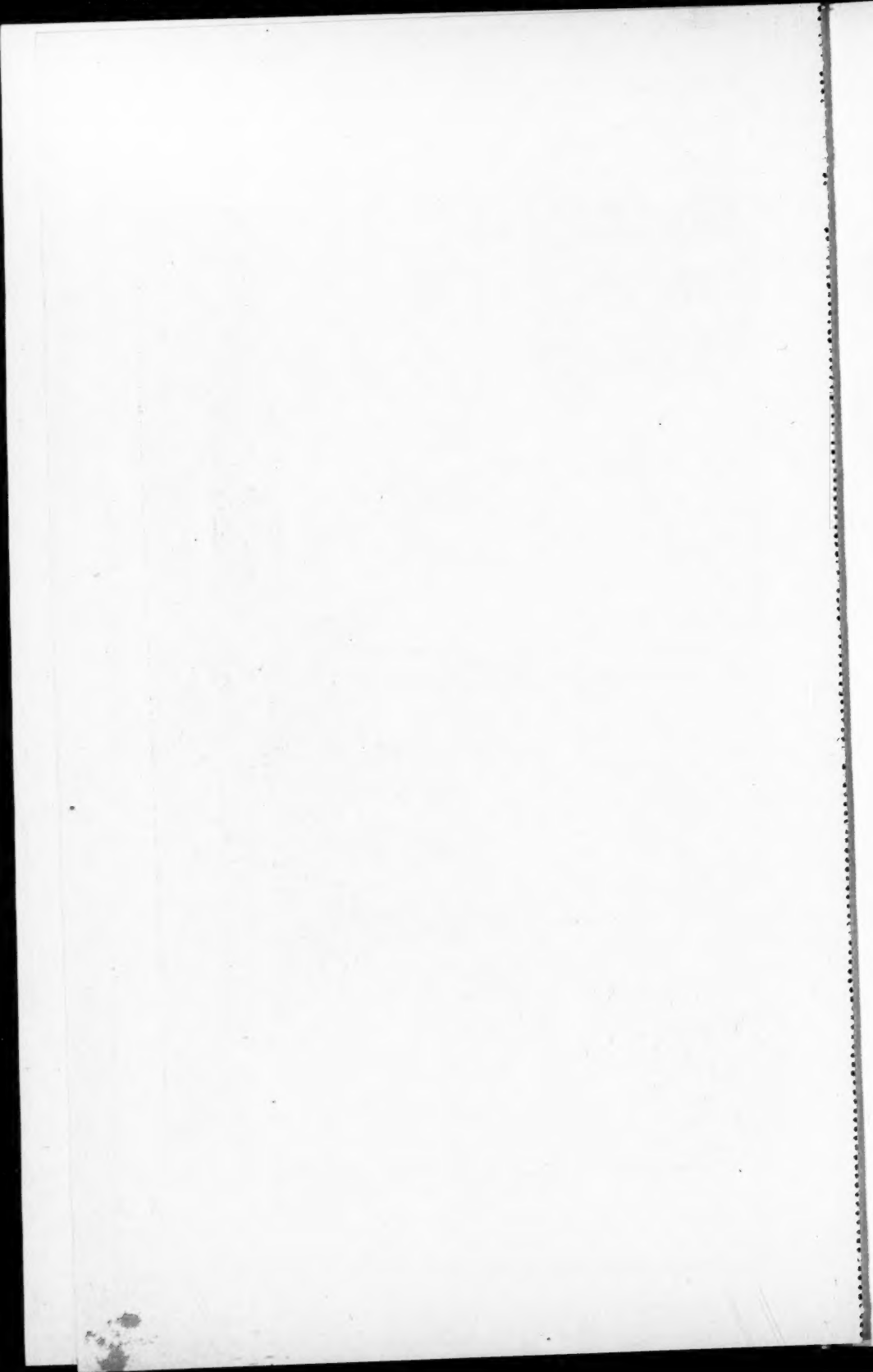
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ROYAL UNITED SERVICE INSTITUTION.

MAY, 1913.

SECRETARY'S NOTES.

I.—OFFICERS JOINED.

The following officers joined the Institution during the month of April :—

Captain A. E. M. Ward, Norfolk Regiment.
Lieutenant N. L. R. Bell, R.N.
Lieutenant A. L. C. Neame, R.E.
Major H. E. Raymond, Yorkshire Regiment.
Sub-Lieutenant J. E. Cooper, R.N.
Captain J. E. Turner, Scottish Rifles.
Major J. A. Thicknesse, Somerset Light Infantry.
Second-Lieutenant R. M. Grazebrook, Gloucestershire Regiment.
Brig.-General H. F. Mercer, C.B., A.D.C., R.A.
Lieut.-Colonel Sir T. B. Cusack-Smith, K.C.M.G., R.F.A. (T.F.).

II.—CHANGE OF RANK AND ADDRESS.

The attention of Members is called to the necessity for communicating any changes of rank or address to the Secretary. It is essential that such notification should be made in writing, and only *one* change of address can be registered each month. The ninth day of the month is the last day on which such change can be notified in order to take effect for the delivery of the JOURNAL of the current month. If such changes are not notified, Members themselves will be responsible if their JOURNALS fail to reach them through being wrongly addressed, and officers are requested to write their names, with initials, distinctly on such communications. Several signatures have recently been received which it has been impossible to decipher, and as there are many instances of Members bearing the same name and initials, it is requested, therefore, that they will add their rank. The Council beg to draw the attention of Members, who do not have the JOURNAL sent to them, and have not registered an address with the Secretary, to the fact, that they (the Council) cannot be held responsible if such Members do not receive any notices that may from time to time be sent out.

III.—ADDITIONS TO THE MUSEUM.

- (6556). An engraving from the picture by R. Caton Woodville, of the charge of the 21st Lancers at Omdurman, September 2nd, 1898.—Given by Percy Morris, Esq.
(6557). An engraving from the painting by G. D. Giles, "After the Battle of the Atbara; the Emir Mahmoud brought before the Sirdar," April 8th, 1898.—Given by Percy Morris, Esq.

- (6558). Shoulder belt-plate of the Royal Fusiliers, recently picked up on the battlefield of Albuhera (fought May 16th, 1811).—Given by Raphael Reynolds, Esq. This exhibit was obtained through the instrumentality of Captain Muzquiz, of the 16th Regiment of Castile, and Senhor Julian Calderon, of Albuhera.
- (6559). Two grape shot and six bullets recently picked up on the battlefield of Albuhera (fought May 16th, 1811).—Given by Raphael Reynolds, Esq. These exhibits were obtained through the instrumentality of Captain Muzquiz, of the 16th Regiment of Castile, and Senhor Julian Calderon, of Albuhera.
- (6560). The barrel of a musket recently found in a blacksmith's shop at Albuhera, having been converted into a blow-pipe.—Given by Raphael Reynolds, Esq. This exhibit was obtained through the instrumentality of Captain Muzquiz, of the 16th Regiment of Castile, and Senhor Julian Calderon, of Albuhera.
- (6561). Portions (three) of a lock of a musket and a barrel band, recently picked up on the battlefield of Albuhera (fought May 16th, 1811).—Given by Raphael Reynolds, Esq. These exhibits were obtained through the instrumentality of Captain Muzquiz, of the 16th Regiment of Castile, and Senhor Julian Calderon, of Albuhera.
- (6562). Two architectural drawings in water colours of H.M. Victualling Yard, Deptford, by W. T. Rivers, dated 1836 and 1837 respectively.—Given by Andrew Clarke, Esq.
- (6563). Drum-Major's staff, on the head is engraved the Royal Crown and Cypher of Frederick, Duke of York. It is that of the 85th Foot. The 85th Foot, the third regiment of this number, was raised in 1793, as the 85th Foot (Bucks Volunteer Regiment of Foot), in 1815 it was styled 85th or Duke of York's Own Regiment of Light Infantry (see Horse Guards Letter, August 10th, 1815), in 1821 it became the King's Light Infantry, and is now the 2nd Battalion of the King's Shropshire Light Infantry.—Given by F. A. Rawlence, Esq.
- (6564). A group of the following medals:—
(1) Indian Mutiny with clasps for Lucknow and Central India.
(2) Afghanistan, 1878, 1879, and 1880.
(3) 2nd Indian General Service Medal with clasps for Burmah, 1887-89.
- They were formerly the property of Colonel J. F. F. Cologon, late Indian Staff Corps, who saw much service through the Mutiny.—Given by Mrs. Cologon.
- (6565). Bearskin cap of the Egyptian Corps des Gardes of Ishmail Pasha, whose uniform was similar to that of the French Imperial Guard of the 2nd Empire, and in which they were clothed at the opening of the Suez Canal.—Given by Captain H. Castle Smith, Suffolk Regiment, attached to the Egyptian Army.

The attention of Members is drawn to the Museum Purchase Fund.

IV.—GRENADIER'S MATCH BOX.

The article in question was a small metal oblong box which was fixed to the soldier's shoulder-belt, and contained the slow match for lighting hand grenades (George II. period). There is no such exhibit in the collection, and the Museum Committee would be very glad either to receive the gift of one or to purchase one. Enquiries have lately been made with regard to this article.

V.—TYPEWRITING.

A typist is employed in the Institution and is available, when not otherwise employed, to type manuscripts for Members. The rate charged is 1d. per folio, or 1½d. for duplicating. Manuscripts should be addressed to the Secretary and accompanied by stamps for return.

PRINCIPAL ADDITIONS TO LIBRARY.

April, 1913.

- Tales of the Wars; or Naval and Military Chronicle.** 4 vols. 8vo. Illustrated. (Presented by Major C. de W. Crookshank, R.E.). (William Mark Clark). London, 1836—39.
- The Life and Surprising Adventures of John Nutting, Cambridge Loyalist, and his Strange Connection with the Penobscot Expedition of 1779.** By Samuel Francis Batchelder. 8vo. (Presented by Major J. H. Leslie, R.A.). (Cambridge Historical Society). Cambridge, 1912.
- Standing Orders of the Queen's Westminster Rifles, 16th (County of London) Battalion, The London Regiment.** 18mo. (Presented by Lieut.-Col. R. Shoolbred, T.D.). London, 1912.
- Map of the Island of Barbadoes.** Scale 1 in. to a mile. By G. W. Bacon & Co., Ltd. (Presented by the Publishers). London, 1913.
- Service Chemistry.** By Vivian B. Lewes, F.I.C., F.C.S., and J. S. S. Brame, F.C.S. 8vo. 15s. Illustrated. (Presented by the Publisher) (Edward Arnold). London, 1913.
- Studies, Military and Diplomatic.** By Charles Francis Adams. 8vo. 10s. 6d. (The Macmillan Co.). New York, 1911.
- A History of the Island of Chios, A.D. 70—1822.** Translated from the Second Part of Dr. Alexander M. Vlasto's work entitled "Xiaka," by Messrs. A. P. Ralli and S. A. Mavrojani. 8vo. Illustrated. (Presented by Messrs. A. P. Ralli and S. A. Mavrojani). (J. Davy & Sons). London, 1913.
- Company Training.** By Brig.-General R. C. B. Haking. Crown 8vo. 5s. (Presented by the Publishers) (Hugh Rees, Ltd.). London, 1913.
- A Critical Study of German Tactics and of the New German Regulations.** By Major de Pardieu. Authorized translation by Captain Charles F. Martin, 3rd U.S. Cavalry. 8vo. 5s. (Presented by the Publishers) (Hugh Rees, Ltd.). London, 1912.
- Rapid Reconnaissance Sketching, including Contouring.** By Captain C. O. Sherrill, Corps of Engineers, U.S. Army. 8vo. (Presented by the Author). (U.S. Cavalry Association). Annapolis, 1912.
- Seventh (Princess Royal's) Dragoon Guards—The Story of the Regiment, 1688—1882.** By Colonel C. W. Thompson; and **With the Regiment in South Africa, 1900—1902.** By Major N. D. H. Campbell, Captain W. S. Wetherley and Captain J. E. D. Holland. 4to. 7s. 6d. (Daily Post, Printers) Liverpool, 1913.

- Musketry Lectures, being a refresher course arranged for Officers of the Auxiliary Forces.** With diagrams. By Captain H. Clutterbuck. 8vo. 5s. (Presented by the Publishers) (Hugh Rees, Ltd.). London, 1913.
- Review of a Battalion of Infantry, including the Eighteen Manceuvres.** By Robert Smirke. 2nd Edition. 8vo. Illustrated. (Presented by Mr. D. Hastings Irwin). (T. Bensley). London, 1803.
- General Regulations and Orders for the Conduct of His Majesty's Forces in Great Britain, 1799.** 8vo. (Presented by Mr. D. Hastings Irwin). (T. Egerton). London, 1799.
- The Story of the Civil War.** Part III. Books I. and II. By Colonel W. R. Livermore, U.S.A. (In continuation of the work by J. C. Ropes). 2 vols. 8vo. 21s. (G. P. Putnam's Sons). New York, 1913.
- Essays on Philosophy and Physics.** By D. T. Smith. Crown 8vo. 5s. (Presented by the Publisher) (Richard G. Badger). Boston, 1912.
- Correspondence of Lord Burghersh, afterwards Eleventh Earl of Westmorland, 1808—1840.** Edited by his Grand-daughter, Rachel Weigall. 8vo. 12s. Illustrated. (John Murray). London, 1912.

STUDY OF FOREIGN LANGUAGES.

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THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

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[Authors alone are responsible for the contents of their respective Papers.]

SECRECY AND DISCUSSION DURING PEACE AS AIDS TO PREPARATION FOR WAR.

A Lecture by COMMANDER CARLYON BELLAIRS, R.N.

On Wednesday, April 2nd, 1913.

LIEUT.-GENERAL J. H. BOR, C.B., C.M.G., in the Chair.

Free discussion reveals truth.—*Herodotus*.

Secrecy belongs to false doctrine, not openness.—*Buddha*.

* * *

Two views of Chatham, the founder of our Empire :

We must muzzle this terrible cornet of horse.—*Walpole*.

England has been in labour a long time and at last she has produced a man.—*Frederick the Great*.

IF it were true, as Carlyle said, that it is the eternal privilege of the foolish to be governed by the wise, we might be tempted to sleep quietly in our beds. The statement is, however, as remote from the truth as Carlyle's definition of genius as "an infinite capacity for taking pains." In any case, neither the wise man nor the genius can dispense with discussion. In our public life it plays a part similar to the stirring of the pool of Bethsaida. Without it we should stagnate. Every official in the Empire should learn to welcome it by reading Walter Bagehot's "Physics and Politics."

It is not, I hope, necessary to argue as Cromwell did against intolerant individuals who condemn things because we may fall by them as well as rise by them. In the case of discussion there is this further consideration that, if we keep out the good on grounds of secrecy, we leave the void to be filled by the

evil. We may take as an example of the evil the notoriety-hunting in connection with gunnery records, and what is still worse the journalistic canvassing of the merits of officers. An early example was Sir Charles Napier, who was boomed and dined as a popular hero before ever he started for the Baltic. *The Times* had then the greatest circulation, or 40,000 copies. Now, newspapers whose circulation runs into hundreds of thousands will concern themselves with the merits of officers. The evil results are great, and they are deplored by the best elements in the two services.

Now, if on the contrary we look sanely and squarely at the problems which face us, study them as a whole before we get down to details, and treat the Navy and the Army as one great force which, free of all petty jealousy, exists only to serve the Empire, then I say of discussion in this spirit, "we cannot have too much of it." Men should not be held as wise because they are silent; I would rather quote to such men:—

"If you're a fool
I think you very wise;
If you are wise
I think you are a fool."

The national ideals which inspired Prussia in the middle of the nineteenth century were publicly taught by professors and not by politicians, and the tendency to greatness, therefore, came from discussion among the people rather than from the leadership of the Government. Similarly in Japan the fighting class became the professors and publicly taught the military and national virtues which made for greatness. It is the misfortune of England that the system of *laissez faire* has thrown the teaching profession largely into the hands of men who have no sympathy with the military virtues, and who regard education from a standpoint not far removed from what is known as the three R's, supplemented by a little history applied as if people had only to insist on their rights rather than to perform their duties. The boys grow to manhood and become an easy prey to politicians, so that the crosses on their ballot papers represent merely personal or party prejudice. And what is the end? "When once Democracy became unrestrained at Athens," says Thucydides, "rival statesmen applied themselves only to please the multitude and let go the care of the commonwealth." The ideals which are absent from the curriculum of our schools ought to be the constant preoccupations of the sailor and the soldier. Is there not reason to fear that our service systems do not sufficiently exalt character above knowledge, personnel above material, and men above measures? If so, neither the services nor the people can influence each other for good to the full extent possible by public discussion, in which soldiers and sailors will teach statesmen how best to translate the high ideals of the people into the armed forces necessary for their realization.

No great martial leader that I know of has been a slavish adherent of authority, and it would be possible to cite opinions and incidents in almost all their careers showing that they advocated criticism and discussion even of the acts of the administrative heads. William III., being a soldier, welcomed discussion and gave full information to Parliament and the people about the fighting services, so that they were really in a position to decide on his demands. Lord Kitchener's Memorandum, in 1904, on preparation for war, gave a complete exposure of vital defects in our Army in India, and in every case clearly pointed out the remedy. Without this publicity and discussion in a democratic country, even so great a soldier as the Duke of Wellington was powerless. "It is notorious," he wrote, "that on the return of the troops to England, after the peace, no advantage was taken of the experience gained in the war. The cavalry continued to be drilled in the old routine of close column and change of position." If he had at once adopted Lord Kitchener's way of full publicity he might have succeeded. The Navy was more fortunate in regard to the obsolete masts and sails training, for the system was killed by discussions in this Institution and criticisms in magazines and newspapers. The Admiralty with great wisdom notified officers that they would welcome the free ventilation of opinion. If there is no discussion, the teachings of war by great masters are perverted, so that we adhere to the letter which killeth rather than the spirit which giveth life. In the official Admiralty Report on the manœuvres of 1891, we read: "It is now perceived that the so-called 'misconduct,' which was punished with extreme severity in the earlier part of the several eighteenth century wars, was not due, as was supposed, to want of loyalty or want of courage, but to insufficient acquaintance with the methods and principles of tactics and the defective signalling systems of the age." To-day we continue to practice manœuvres every year, but after 16 years manœuvring, in the 1903 manœuvres three armoured cruisers were in action with four other cruisers for 33 minutes before it was discovered that they belonged to the same side, and in another case an armoured cruiser was ordered to chase and fight one belonging to her own side, so that they fought for 40 minutes. Now, we endeavour to prevent the public from hearing these things, but how much better to thresh the whole matter out in discussion and see if the cause is "insufficient acquaintance with the methods and principles of tactics" for, if we made these mistakes on the water, what will take place now that the Admiral's control extends to things in the air and under the water? We have no time to think out our plans after a war breaks out. We read of Nelson when searching for the French in the Mediterranean that "It was his practice during the whole of his cruise, whenever the weather and circumstances would permit, to have his captains on board the "Vanguard," where he would fully develop to them his own ideas of the different and best modes of attack, in all possible situations." Modern war

is hardly favourable to such conferences, and hence peace is the only period available for discussion. This is not altogether to be regretted, as conferences afford in war, in the hands of weak men, a similar means of evading responsibility that a committee does to a weak administrator during peace. The question I have therefore to submit is how far are discussion and publicity desirable during peace as aids to the preparation for war? I submit two propositions, namely, that in all democratic countries the greatest progress is achieved by publicity and discussion during peace, and that until war is imminent, secrecy as a policy is an utter failure.

If my paper deals mainly with the Navy, it is because there are no secrets which can help our little Army against the conscript Armies of Europe. Its whole power lies in mobility, and is derived from the Navy. The only secret is where the blow will be struck. Prior to the South African campaign, the War Office suppressed a lecture which was to have been delivered in this theatre as to the merits and demerits of an Army Drill Book. Nothing but good could have resulted, and I believe drill books are not sacred, for Napoleon broke away from the French Drill Book in his first campaign. I would give as a typical instance of the secrecy policy at work the refusal of the War Office to provide money for map work in South Africa prior to the war; that is, for the offensive. At the same time they secretly expended large sums on forts in the West Indies, for the defensive. These forts have since been abandoned. A schoolboy would know that to the winning of a war the offensive is infinitely more important than the defensive. When men consider things in an office they often lose the sense of proportion and forget Dr. Johnson's dictum that parts are not to be considered until the whole has been surveyed. Discussion soon exposes the fallacies of the man with the microscopic eye, who magnifies details.

The Anglo-Saxon has a natural bent for discussion, and I do not believe any secrecy policy can be enforced in England unless we go dead against our democratic instincts and make the King the absolute head of the Navy on the ground that he is the only man who can be trusted to keep the King's secrets. As a race we are "open-hearted," as Defoe described us in the lines commencing:

In close intrigue their faculty's but weak
For generally whate'er they know, they speak.

The sensible statesman never runs counter to fixed national characteristics, but endeavours to turn them to advantage. Late in life Napoleon acknowledged that the attempt on his part to do so in Spain had wrecked all his plans.

I would ask my audience to examine the shipbuilding position, first in regard to merchant ships where we have the maximum of publicity and discussion; and second, in regard to warships where, since 1905, we have had the spurious secrecy

which has done much to stamp out discussion in this theatre and at the Institution of Naval Architects. In merchant ship-building where we were utterly outclassed 70 years ago by the Americans and others we are now supreme. We build over 70 per cent. of the world's production of large steamers, and any engineer will acknowledge we could hardly have more free discussion. Possibly the two facts are related. In regard to warships, designs were freely discussed in 1889, whereas now there is practically no discussion worthy of the name. There can be no question as to the superiority of British ships from 1889 to 1904. It is very questionable if we have maintained that position since the secrecy policy has been in vogue.

We may with advantage study the naval revival which is now taking place in France. Probably the minimum of true service discussion lasted from the Dreyfus case in the Army to the end of the disastrous Pelletan administration in the Navy. Then the real service discussion began in the Army and passed on to the Navy, resulting in an output of literature which competent critics describe as of a very able character. What is still more remarkable is how this publicity has reacted on national sentiment so that the present wave of devotion to high ideals apparently includes the nation as well as the services.

The country in which there has been the maximum of publicity and discussion is America. She evolved the super-Dreadnought idea of turrets all in the centre line and firing over each other, before the "Dreadnought" was even designed. America kept consistently to this one plan, and has the satisfaction of possessing a homogeneous fleet. We are all copying her now, but there was nothing novel about the idea. The novelty was that America has been the only country except France in which criticism and discussion were courted by the authorities. Without discussion past failures in designs like the echelon system of turrets will always be resurrected, whereas with discussion they will be recollected as failures and discarded for that reason. It was almost inconceivable that the British Admiralty would have revived echelon turrets, so that one turret is entirely out of action on two important bearings, or that they would have been allowed to waste several hundred tons on armoured bottoms in the "Bellerophon" class if these things had been publicly submitted. The errors under the secrecy policy are found out too late; and we should bear in mind that all Parliamentary control, except over finance, necessarily ceases.¹ The secrecy has really been against Parliament itself. In 1905 public attention was called to the need of a

¹ The Committee on Public Accounts has reported that "The scrutiny of expenditure by subordinate officers, the criticism of errors of estimate, and, in short, the work of your Committee will be to a large extent useless, if by the excuse of a 'change of policy' any department can shake itself clear of Parliamentary control."

reserve of heavy guns. The next year all information as to our guns was removed from the Navy Estimates. In 1906 Parliament tried to discuss the number of men locked up in nucleus crews. In 1907 the details as to the distribution of men between nucleus crews and fully commissioned ships were entirely omitted from the Navy Estimates. We invented this spurious secrecy policy in 1905, and Germany, living under an autocracy, followed in 1907.¹ In spite of trials of spies, it is believed that Germany, to some extent, succeeded in keeping her secrets. And what is now the result so far as the British Government is concerned? Having themselves invented the policy, ever since the failure of the Hague Conference the publicly avowed object of our diplomacy has been to break the secrecy policy down by mutual communication with Germany of the details of our programme.² The Government have arrived at this ludicrous solution that we are to take our greatest rival into our confidence while retaining the secrecy against our Parliament. The evolution of the bureaucrat is certainly a chapter Walter Bagehot ought to have added to "Physics and Politics."

A further development of the secrecy policy has yet to be noted. The year after it was adopted, the Board of Admiralty printed and circulated at the taxpayers expense letters which were marked "private and secret." The sole purpose of the circulation of these letters was to discredit their chief critics, who knew nothing about the existence of them until the exposure took place in 1909.

If only the Admiralty and War Office would study their own histories they would see how much they owe to discussion. The Naval Intelligence Department owes its origin to a lecture at the Royal United Service Institution by Sir John Colomb which the Admiralty endeavoured to suppress. The revival of the Navy was largely due to Mr. W. T. Stead's "Truth about the Navy," the facts of which were supplied chiefly by the First Sea Lord and by Lord Fisher (then Captain Fisher). In 1889 an enlightened policy was pursued. Officers afloat were not only consulted by the Admiralty as to the designs of ships, but full publicity was given to the report of the three distinguished Admirals who patriotically exceeded their briefs in criticizing the manœuvres of 1888.

The designs of the ships of the 1889 programme were made public in an early Parliamentary paper, which plainly stated the arguments in their favour. The chief constructor, the late Sir William White, was then sent to read a paper at the Insti-

¹ In the *Nineteenth Century*, April, 1906, the late Sir William White pointed out that Germany gave full information about shipbuilding programmes.

² The Austrian Government might agree and the German refuse, in which case we should communicate our plans to Austria, which country would pass them on to her ally.

tution of Naval Architects, and full pay officers were invited to discuss it.¹

The result of that policy was one of great confidence in the Admiralty: the unchallenged superiority of British ships for 15 years; and the entire Japanese Navy was built in British yards. We weathered the Fashoda crisis, and the attempted coalitions of the South African War period with supreme confidence in the Board of Admiralty. The hands of the Admiralty were again immensely strengthened by the discussion on mast and sails training in 1901, for which they specially intimated to active list officers that free discussion would be welcomed.

Now let me apply the argument to the defence of commerce, which is very much in our minds, and which was the subject of last year's Gold Medal Prize Essays. There can be no doubt that commerce will be attacked with great determination, and in the prevailing state of public ignorance, the attack will produce a panic in the Press, in Parliament, and among the populace, out of all proportion to the results attained.

Now note the result:

- (1) We have a plan of war which is necessarily secret.
- (2) We have a secondary plan of defending commerce which we choose to keep secret.

The primary and secret plan will probably be upset by this popular ferment, which is just what the enemy wants. Any intelligent foreign sailor can work out what must be our plan for the defence of commerce. There is, therefore, no use for secrecy. I say, therefore, educate, educate, educate. Discuss it as much as possible. Teach the people where their food and wages come from across the sea, show them that they will be reasonably safe, in spite of losses here and there, and then when the time comes there will be no panic, and the secret primary war plans will not be upset.

I quite recognize that more harm than good might be done by publishing and discussing the mechanism of, say, the latest torpedo or gun director. Even here, however, secrecy is very difficult, and the reasons may be briefly stated.

¹ We may usefully contrast the following from a Parliamentary debate, November 6th, 1906:

Mr. Bellairs (Lynn Regis): I beg to ask the Secretary to the Admiralty whether the six designs of battleships from which the "Dreadnought" was selected comprised any ships of different speed; whether the ships of different speed carried similar armament in respect of heavy guns; and whether the six designs of cruisers, from which the "Invincible" was selected, embraced ships of less speed than the "Invincible," and costing less than £1,750,000 each.

Mr. Edmund Robertson: It is not in the public interest to give the information asked for.

- (1) The mechanism usually includes civilian patents, and in any case contractors have to be given sketches of sections of the torpedoes, and are allowed to visit the Government factory to obtain information as to details.
- (2) Our great shipbuilding enterprises in this country run similar enterprises in Russia, Italy, and Spain.
- (3) A number of foreign officers are trained in our ships, and British officers are employed to train foreign navies.
- (4) Foreign ships are built in our yards by the same firms that build ships to Admiralty designs.
- (5) Secret books can be photographed in a few hours.

I have referred to our system of secrecy as a spurious one, for the information generally came out in the Press, but not in an official form available for discussion in Parliament or at the Institution of Naval Architects or in this theatre. Thus, in the Engineering Press, on May 26th, 1905, in February, 1906, and again on October 5th, 1906, important details of the "Dreadnought" appeared.¹ The first account was fourteen months before any information was given to Parliament, and included the designed horse-power, machinery, boilers, displacement, speed, armament, and other items. It was not obscurely hinted that the information was semi-official, and that on certain points connected with the arrangement of the magazines, the writer was "not free to give details." Long before the details were given to Parliament, favoured individuals in the Press were in possession of a handsome little "Dreadnought" pamphlet marked "Private." On the first page it was stated that it was for the use of the Press, but was not to be quoted verbatim. It was in this pamphlet that the great secret was revealed that the ship was to fight at 10,000 yards! The mystery now is why the ship was ever surrounded with screens, unless it was to stimulate the interest of the world.

In February, 1909, we laid down the "Indefatigable," and when questions were asked in Parliament, information was refused as to the armament. Yet every single detail, down to the weight of armour per square foot on different portions of the vessel, appeared in *The Naval and Military Record*,² before

¹ A foreign Government got possession, not merely of information, but of the complete plans of the first ships of the battle-cruiser class.

² This well-informed paper had the amusing effrontery to criticise the Members of the House of Commons a little over a year later (April 20th, 1910), by saying, "the German naval authorities have acquired no experience of turbines in large ships. Either they have obtained fairly accurate information of British experience—which is not improbable in view of the

even the ship was laid down at Devonport. In both cases the ships were built under the boasted secrecy of Government dockyards. In both cases the information was published in newspapers, which were prominent in their support of Admiralty policy. When at last the speeds of ships were officially published, it was shown by public discussion that huge sums were spent on a factor which was no adequate compensation for the expense and loss of fighting power involved.¹ The answer put forward was one worthy of Cagliostro, who promised all his admirers that they would participate in his secrets. It was quoted in the *Edinburgh Review*: "The reason why the Sea Lords have not answered the speed criticism is obvious. The matter is a technical one, and its discussion involves the revelation of a secret which Continental friends would give a great deal to know. This secret relates to a combination of science and tactics, which, for once in the history of England, is not the property of any other Power." Apparently the secret was too great to confide even to the Admirals in command, for more than one, like Admiral Sir Reginald Custance, have spoken slightly of the speed mania since then. The fact is, all this talk was to raise prejudice against discussion. We could have no discussion here or at the Institution of Naval Architects, for there were no official details to criticize. Equally foolish were all the stories about the rapidity of the "Dreadnought's" construction, for the present congestion of building was brought about by erroneous notions as to the rapidity with which we could build ships. Materials were accumulated for six months before she was laid down, men were taken from all the other ships building and repairing to work on the "Dreadnought" day and night, and five turrets and ten 12-inch guns ordered for other ships were transferred to the "Dreadnought." None of these facts were revealed to correct an impression which was bound to react harmfully on our naval strength. Finally, in regard to the design, there is not one single novel feature in that design, except the adoption of turbines, which has not subsequently been reversed in succeeding ships.

The advertisement policy led to giving information, which ought not to have been given, while it held back the information which ought to have been given. What gain was there in

publicity given to technical matters in reply to questions in the House of Commons—or they consider the urgency of the matter sufficient to justify them running risks at which even the British Board of Admiralty hesitated." An engineer would be amused to hear that any of the answers in the House of Commons could give information as to the technicalities of turbines.

¹ The official details of the "Captain's" trial and tests were studiously concealed from the public. Had they been made public a great disaster would have been averted.

the publication of the gunnery returns? If they gave information to the foreign naval officer as to the efficiency he had to beat, only harm could result. If the Navy was taught to look to the Press instead of the Admiralty as a master, it did harm. If publicity led to faking returns and waste of coal in search of fine weather, it did harm. No good could result, yet this information was given to the world, and much injustice was done to zealous officers who fired under the least favourable conditions of weather, or were handicapped in such material aspects as gun-sights, guns, and tropical temperatures affecting the cordite.

It is all very well to say "let us trust the Government," but why should we trust them? What is the historical lesson? It is that on many occasions Governments have deliberately misled Parliament by statements which in correct Parliamentary language are called "economies of the truth." The Government of the day informed Parliament that the Generals were in favour of the Crimean Expedition, whereas the most important of them all, Lord Raglan, had protested against it. If half the information about South Africa, which was kept secret by being pigeon-holed, had been made public property the gain would have been considerable. It is still more remarkable that the War Departments have often misled the Prime Minister. Peel complained several times of the false information given him by the Admiralty. Parliament is accustomed to this treatment; and it is a subject of comment by officers who have prepared answers for the two War Departments that they are often quite unable to recognize their answers as given in the House of Commons. Such is the humbug of our procedure that even the Navy Estimates are sometimes what in business would be called a false balance sheet, bearing a date opposite the signatures of the Lords of the Admiralty when it was notorious that the amounts had been largely reduced subsequent to that date. When history and biography come to be written it is found that the scandals of administration, which were merely classed as rumours at the time, are confirmed by the chief actors. If now, on merely plausible grounds we set up secrecy as a law during peace, we shall place weapons in the hands of officials which will be gradually used to dry up the sources of criticism. At one time the newspapers showed a very proper and generous disposition to co-operate with the War Departments in regard to "the dissemination of news in time of war and when war was imminent." The Admiralty ruined everything by drafting a Bill affecting all State documents of "a secret and confidential character" less than 42 years old, the punishments being by fine and imprisonment with or without hard labour, and the Bill authorized search-warrants for constables to invade any premises on suspicion in order to search for such documents. What had this to do with war? It became chiefly a Bill to enable bureaucrats to escape the only punishment ever incurred

by them in England, namely, the exposure of their mistakes. Some day officials will all learn, as sincere men have done in the past, that knowledge, grit and tact are their chief requisites, and with them they gain public confidence. The Speaker of the House of Commons has unquestioned authority with scarcely any power of punishment. If his prestige vanished to-morrow, his power would go with it.

The Bill to amend the Official Secrets Act, furthermore, came at a time when the War Departments were claiming unheard of powers over half-pay and retired officers by surreptitiously-passed Orders in Council. I exposed and brought a stop to the entirely new departure of passing Orders in Council without publication in the *London Gazette*. The Order in Council of November 20th, 1905, enabled the Admiralty to forfeit the retired pay of an officer not merely for a habit or misconduct, but for any act "rendering him, in their opinion, unworthy to receive the same." It adds "such misconduct, act or habit to be judged of solely by the Admiralty." There is no trial or right of appeal. Such powers were not formerly possessed over even half-pay officers.¹

The War Office followed with Article 606 Pay Warrant, which claims the most arbitrary power ever conferred when we reflect that retired pay is deferred earnings for which the work has already been done. It reads as follows:—"Under special circumstances to be determined by the Secretary of State the retired pay granted to any officer on retirement, or any portion of it, may be suspended or withheld."² The Admiralty

¹ McArthur on Courts Martial, Vol. I., in 1785:—

"The court martial appointed, to try General Ross respecting a letter written by him reflecting on General Boyd, met to receive the opinion of the twelve Judges on the point submitted to them, *viz.*, whether General Ross, as an officer on half-pay, was subject to the tribunal of a court martial. The Judges gave an unanimous opinion that he was not, as a half-pay officer, subject to military law."

Mr. Childers, as First Lord of the Admiralty, May 26th, 1870, said:

"Every tyro in politics must know well that it is one of the most vital constitutional principles, that officers on half-pay are not subject to the Naval Discipline Act; and any First Lord of the Admiralty who attempted to bring an officer on half-pay before a naval court martial would deserve the censure of the House."

² After quoting this article in the House on April 17th, 1906, I asked Lord Haldane, who was then Secretary of State for War, "Whether he would undertake not to interfere in any way with the free expression of opinions by retired officers?" He replied, "It has not been customary to interfere unreasonably with the expressions of opinion of retired officers, and I am not prepared to give the undertaking suggested in the question." I asked, "what redress of any kind retired officers had?" and Lord Haldane was unable to enlighten the House.

have now absolutely prohibited officers of the fleet from speaking or writing on naval matters without permission of the Admiralty. (See Appendix).

We have slid down the slippery slope to an intense intolerance for all criticism and discussion. During this period of secrecy, both the Board of Admiralty and War Office have vacillated like weathercocks on the most important principles as well as details of policy. Officials now place convenience of administration before preparation for war. Just as a French Government once cut off the head of a chemist and said they had no need of chemists, the War Departments declare in effect that they have no need of critics. On the contrary there never was a time when criticism and discussion were more needed than they are to-day.

If we judged merely by what we saw around us we should be as ignorant of all science, including war, as savages. The earth is round and seems to be flat. Energy is never lost, but always seems to be lost, and so on. Now let us bear in mind that ship and barrack life afford a very narrow training, while tactical and strategical problems, owing to modern inventions, cover enormous areas. In these circumstances, without discussion to enlarge our minds, we should merely learn to fight in grooves, and consequently always be outflanked by the mobile intelligence of those who have lived beyond the groove. "But," I seem to hear someone say, "there is the preparation for examinations." I reply that examinations are injurious to initiative and independent thought, and already they interfere seriously with the leisure that might be devoted to discussion. My belief is that it is the most ignorant and dogmatic men who hate discussion and worship secrecy. Schiller said that "against stupidity even the gods fight in vain." He was wrong, for discussion will always conquer stupidity, and it is secrecy which is the armour of stupidity. In discussion even error is helpful, for as the old saying runs, the errors of a wise man are more useful than the truths of a fool. Discussion sets reason up against authority, and is therefore disliked by officials with bureaucratic minds. As with St. Paul and the Ephesians, it is ever made a grave charge against a man that his teaching is upsetting things. That explains why officials never make discoveries, for Buckle declared that every discovery that had ever been made was contrary to common sense; and common sense we know is something much broader than official sense.

Dr. Johnson said that experience is perpetually contradicting the theories of mankind, and Sir John Herschel said that the perfect observer will keep his eyes open for things which are contrary to received theories, for in this manner great discoveries are made. Indeed, history affords the most convincing proof that the period of feudalism when the guilds jealously guarded their secrets and everything was settled by authority, was one of stagnation. This also was the case in China for

23 centuries, during which the authority of the past has been worshipped in accordance with the teaching of Confucius. In Spain the authority of the Holy Inquisition overthrew discussion, and where is Spain to-day? I suppose Turkey and Marocco were typical examples of countries where no discussions took place, and so ignorant was Turkey of the long preparation which freedom of discussion requires, that with the new constitution she adopted only the worst evils of a government by discussion, namely, a parliament of lawyers, and the heads of the War Office and Admiralty changed about once in three months. Finally, we may go back a few years and cite Russia, and we see the depths to which a service will fall under authority where discussion is repressed. Russia, however, before ever the war was fought, learned her lesson. Her censorship on foreign telegrams taught her that most false and injurious news was sent all over Europe from just over the frontier. Red tape methods delayed her own official denials, until public interest had disappeared. The censorship was therefore abolished just before the war.

I now wish to ask, in conclusion, what incentive has an officer to study questions if he may not discuss them, and how are the two services to be brought together except in the class room atmosphere of War Staff training? And, again, where are they to come in contact with shipbuilders and the thousands of civilian minds bent on the improvement of war material? The environment and duties of officers in barracks or on board ship are narrow, and superior officers bred in this new spirit of secrecy, will probably refuse even the use of confidential books bearing on matters connected with the duties of higher ranks. If the junior makes reports outside his duties, he will be deemed officious and do himself harm; and officialism, bred in the barren atmosphere of secrecy, will probably pigeon-hole or paper-basket the report. The greatest pity of it all is the loss of that brain-power in men who have the imagination to plan, but not the executive ability to do things. They cannot and should not rise to high command, but their knowledge is there and secrecy deprives the country of it. It can only come to fruition under the stimulus of discussion, which prepares the ground for changes, and is yet also a brake on revolutionary changes. The evils of this loss are great, and the school of opinion to which I belong has little prospect of power to bring about a change. So, speaking now as a member of your Council, and not as a free lance critic, I suggest that the Council might establish a system of secret discussions and a semi-secret Journal if the War Departments will guarantee us against pecuniary loss. These discussions and the new Journal would be open to active list officers, only under the usual service secrecy. We would, of course, carry on our usual public discussions with the reporters present in the usual way. I have no enthusiasm for the proposal, but I regard it as better than the present

absence of active list officers from our theatre. The Admiralty and War Office might be induced from time to time to let retired officers attend these secret discussions. The educational results might then lead to our establishing as close a connection with the services, as is the case with the Royal United Service Institution in India, which enjoys the marked encouragement of the authorities in India.

It is possible that secrecy may be a success in Germany, but I do not think it can ever succeed in England. Discussion with us is a national characteristic, so strong that even a party caucus pays a good deal of attention to it. For the War Departments to endeavour to suppress it, is to imitate Napoleon's worst failure of setting up French methods in Spain. We cannot say to people who both vote and pay, "You are not going to know what you are paying for." If we try, they will sooner or later turn round and refuse to pay, because we have kept them ignorant. It rests entirely with the authorities whether we are to be ruled by ignorant or informed discussion. If they are wise they will recognize that democracy, with all its faults, is ever generous to those who rely on reason and discussion rather than on authority and tradition, and that the less the public are permitted to discuss the Army and Navy in peace when it can do no harm, the more they will be tempted to discuss them in war, when it may be most injurious.

APPENDIX.

[The following extracts have been thrown into an Appendix, as they bear on the subject, but they were not read.]

First let me point out that the Royal United Service Institution is the headquarters of Service thought and discussion, and let me cite how the American Navy Department treats and encourages the similar "Naval Institute" in the United States:—

"The Bureau desires to express its thanks to the Naval Institute for its discussions of professional subjects, and to state that its publications have been of great value to the Naval Service."

Report of the Bureau of Navigation for 1902.

"The Bureau desires to put on record its appreciation of the assistance rendered it, the Department, and the Service during the past year by the United States Naval Institute."

Report of the Bureau of Navigation for 1901.

A number of similar testimonials might be given. As to our practice before the secrecy policy was adopted I quote the following from the late Sir William White's paper at the Institution of Naval Architects, in 1889, which was read with the approval of the Board of Admiralty:—

"On many previous occasions members of the Institution occupying the position which I have now the honour to hold, and gentlemen occupying equally responsible positions in foreign navies, have brought forward descriptions of new types of ships, or problems arising out of their official work, and always with advantage to the public service, as well as to the Institution."

"There had not only been an unfortunate reticence in the answering of questions, but a continuance of that unfortunate policy of surreptitious *communiqué* to the Press. . . . He thought that the policy was full of mischief and should cease."

The late Mr. Arnold-Forster (formerly Financial Secretary of the Admiralty and Secretary of State for War). Speech in the House of Commons, 1907.

"All remained silent. If they gave their opinion they would have to take sides, and that would be very dangerous. Everyone knew that a bold word or an independent opinion would reach a certain destination by mysterious paths, and that the rash individual suddenly felt the punishing hand. . . . All who were present had one idea—how to guess his Excellency's views. That was the fault of the moral atmosphere created by Alexeieff. He who guessed right was fortunate. He who did not succeed was treated with indulgence, but if anyone dared to have an opinion of his own, let a cross be placed against his name."

Semenoff's "Rasplata," translation by L. A. B.

"All persons in the Fleet are forbidden to write for publication or to publish or cause to be published, either directly or indirectly, any matter or information relating to the Naval Service, unless the permission of the Admiralty has been first obtained. All such persons are further forbidden to deliver any lecture or read any paper at a public meeting on any subject connected with the Naval Service unless a copy of such lecture or paper has been previously submitted to the Admiralty and permission has been granted."

Admiralty Circulars, November 21st, 1907.

"More than 30 years ago the late Lord Hampton, then Sir John Pakington, was First Lord of the Admiralty, and a great outcry arose concerning the publication in a newspaper of a certain programme of shipbuilding which he and his colleagues had authorized, but which had not been at that time—nor was it ever afterwards—submitted to the Treasury. It was a magnificent programme, wanting neither in scope nor in boldness. Its premature publication created a great stir at the Admiralty, and on a certain Monday morning the Controller of the Navy informed me that he and everyone in his Department were signing a statement in which its communication to the Press was forcibly disclaimed. I pointed out to him that nothing could well be more unnecessary, seeing that the Board minute, giving a list of the proposed new ships, had been lying, with other minutes of the Board of Admiralty, for at least 40 hours upon the hall table of our Department, open to anyone and everyone, including gentlemen of the Press, who might choose to look in. I knew this to be so, for I had seen it lying there on the previous Saturday afternoon, soon after the close of business, and there it had doubtless remained until the recommencement of business on Monday morning. Curiously enough, the Board of Admiralty, in the precipitancy of its patriotic purpose, had set forth the names of the ships to be added to each class—a proceeding of a very unusual character. I need hardly add that after my evidence had been given to the Controller the search for a culprit among the officers of our Department ceased, and a system of padlocked despatch boxes and portfolios was established. This lasted, I believe, for a few weeks,

but not for long, the delays and inconveniences occasioned, where many important documents had to be distributed and reported upon, being too great a price to pay for the secrecy which is so rarely necessary."

Letter from the late Sir Edward Reed in the "Times," August 1st, 1901.

"There was nothing in the objection that inquiry would give information to foreign Powers; for those who had the management of their Navies knew a great deal more about our Navy than many of us did. He had had practical evidence of this fact. The Government might suppress printed documents; but if he wanted information as to the condition of the Navy he could get it at Berlin, Copenhagen, or Paris, if he chose to spend a little money. The only effect of withholding information from the people of England was to create the impression that it could not be given without damage to responsible officials; and he did not think that was fair and just to them."

Mr. W. H. Smith, March 20th, 1884.

"He felt in the strongest way that according to the spirit of our democratic system everything that was not injurious, or could not be injurious by publicity, should be the common secret of the people, and of those who were critics of the public services."

Lord Selborne at Sheffield, April 12th, 1902.

"The writer of the remarkable series of articles that had appeared in *The Times* was right in insisting on the necessity of searching inquiry into this matter. He would like to see the whole constitution of the higher Departments of the Naval Service inquired into, and he ventured to press on the Government the desirability of searching and independent inquiry such as would be obtained by a Royal Commission."

Lord Haldane, debate on Navy Estimates, February 21st, 1902.

Lord Haldane again advocated an inquiry, speaking at the Eighty Club on May 12th, 1904.

"The defence of the country is not the business of the War Office or the Government, but the business of the people themselves."

The late Lord Salisbury.

"If the Government had made mistakes it was largely because the people of the country had failed to impress on Governments what they ought to do."

Mr. Walter Long, the Bankers' Association Dinner in 1902.

"No community, which is not primarily charged with the ordinary business of its own defences, is really or ever can be in the full sense of the word a free community. The privileges of freedom and the burdens of freedom are absolutely associated together."

Mr. Gladstone in 1859.

"The responsibility for efficiency and sufficiency of preparation for war rests upon Parliament, and, in a special sense, upon the Prime Minister. . . . There have been, however, in the past and there will be in the future, Prime Ministers to whom the great questions of Imperial Defence do not appeal. . . . It is not safe to trust matters affecting

national security to the chance of a favourable combination of personal characteristics."

"The Committee of Three," Lord Esher, Lord Fisher, and Lord Sydenham, January 11th, 1904.

"There is no Standing Committee (of the House of Commons) to inquire whether the money voted is spent to the best advantage. There are discussions upon the Navy and Army Estimates in the House itself, and year after year the country watches, with sad amusement, painstaking and conscientious members of Parliament, striving for information, being fenced with by Ministers who are wrung with anxiety to preserve proper official reserve and the consequent respect of their Departments."

Lord Esher in the "National Review," April, 1908.

"Our military history supplies instances of how in the past we have courted failure, and even invited defeat, by an overweening confidence in the capabilities of our troops. We have thus lost sight of the necessity of taking every precaution against possible failure by a careful previous study of the military problems which confront us, and by the proper training of our troops for war."

Lord Kitchener's Memorandum on Preparation for War, 1904.

"Men of strong individuality are with us, unfortunately, often passed over instead of receiving accelerated promotion. Because they are a source of anxiety to some officers in peace time, they get suppressed as being headstrong. The result is that they leave the Service; whilst others who possess neither force of character nor conviction, but who are subservient and always ready to agree with their superiors, are promoted."

Kuropatkin's Farewell Memorandum to the Russian Army in Manchuria.

"Your pretended fear lest error should step in, is like the man who would keep all the wine out of the country lest men should be drunk."

Cromwell.

"It will be said that such detailed discussion in Parliament will be offensive to foreign nations. I do not think it need be; but if it were so, I should boldly say it is better to risk a little occasional offence abroad than to spend untold sums without an intelligible, at least without an understood, reason at home. But on the contrary, I think the effect abroad would be favourable. Official speakers in such a careful annual statement as I suggest would be sure to speak guardedly and carefully; it is in the haphazard impromptu of fortuitous debate that rankling speeches are uttered. And the all-important conclusion would be made clear, that our armaments are, as a mathematician would say, only *functions* of foreign armaments, that if foreign nations increase theirs, we shall as a principle increase ours, so that they will gain nothing, and if foreign nations diminish theirs, they will incur no risk as far as we are concerned, for we shall at once diminish ours too. The only way to impart confidence in the principle is to make it part of our annual Parliamentary system, which is public and notorious to all the world. The really pacific nature of England is not comprehended anywhere abroad."

Walter Bagehot.

"Disorder seems to me something like as if an husbandman should throw into his granary barley and wheat and peas together, and then, when he wants barley bread, or wheaten bread, or pea-soup, should have to abstract them grain by grain, instead of having them separately laid up for his use. . . . For there is no time, when Heaven sends a storm over the sea, either to seek for what may be wanting, or to hand out what may be difficult to use; for the gods threaten and punish the negligent."

Xenophon's Economics.

"All opinions, nay, even errors, known, read, and collated, are of main service and advantage to the speedy attainment of that which is truest."

Milton.

"Custom unresisted hardens into necessity."

St. Augustine.

The following are examples of the refusal of information by the Admiralty to the House of Commons:—

(1) Any statement as to the numbers of an invading army against which the Navy can guarantee protection.—17th February, 1908.

(2) Any information about:—

- (a) Naval manœuvres.
- (b) The cost of our ships or the ships themselves until some time after commissioning.
- (c) The complements of ships.
- (d) The reserve of guns and ammunition.
- (e) The rearmament of ships.
- (f) The prices at which we buy coal.
- (g) The prices realized by the sale of obsolete ships was refused on one occasion.
- (h) Reduction of authorized programme at the time it was made.
- (i) Any information about foreign navies unless officially published by their Government, e.g., the Admiralty were asked if the German Admiralty ordered guns and torpedoes entirely from private firms. The answer was:—"As the German Admiralty have themselves made no public announcement as to their practice in this matter, I submit to my hon. friend that it would be beyond the province of the British Admiralty to make any statement on the subject."

SECRET COMMITTEES.

In the report of the Esher Committee (1904) there is an interesting paragraph on departmental committees, of which the Admiralty and War Office have sometimes over thirty sitting at the same time:—

"Their reports accumulate and are not adequately studied. The general result is to delay necessary action, to destroy responsibility, and to entail a large aggregate of expenditure. The agency of a committee should never be resorted to as a means of evading responsibility."

In 1908 there was published a return giving a list of over 500 Parliamentary reports of inquiries into Naval or Military affairs. This is irrespective of an immense number of departmental inquiries, the reports of which were never published. Generally speaking, the greater the secrecy practised the more numerous the committees, and years after it is found that in many cases they sat with terms of limited reference, and examined so few witnesses that the inquiry was a sham.

When Lord St. Vincent carried out his campaign against corruption in the dockyards, the Navy Board tried to foil him by appointing the surveyor of each dockyard to report on his own yard. Lord St. Vincent very soon put a stop to such a farce, but in recent years we have revived the practice. Many of these departmental inquiries are of public interest and the last copies of their reports have in some cases been wantonly destroyed because they conflicted with evanescent policy. A few capable and independent men ought to be allowed to select all which are worthy of public attention to be printed as Parliamentary papers.

DISCUSSION.

Dr. Miller Maguire: The gallant Lecturer is a very old friend of mine. I have been engaged with him on divers occasions, on most of which our remarks have been highly objectionable to bureaucracies and party authorities at large, and I therefore feel bound to give him some kind of backing on the present occasion. I must say, honestly, that having read carefully the lecture as the gallant officer was delivering it, I cannot find anything from one cover to the other to object to. It is merely mild truth. It is almost diplomatic in its abstinence from treading on the corns or offending the susceptibilities of any of the hireling agencies of party caucuses who take large salaries for leading the country blindfolded to the verge of the precipice of war. With regard to the Crimea Sir Evelyn Wood once told me that he was perfectly certain when he went from the Navy to be an Army officer, that the Government did not know in the least degree why they were sending him to the Crimea, where the Crimea was, or in what part of Turkey they ought to land to get at the Crimea. Accordingly they landed at Gallipoli, in Bessarabia, and at Eupatoria, and they took one and a half years to get Todleben out of Sebastopol. And yet they pretended they had a grand policy in connection with the Crimea. And so with regard to the South African War. The Government, believing that the Orange Free State would no more go to war with us than Switzerland would, sent at first scarcely one army corps, and it therefore took much time before they got to Pretoria! Lord Roberts knew all about our position before the war, and I sent several copies of Hamley's "Operations of War" to the Cabinet, gratis, and they ought to know all about it. Apparently the only persons who did not know anything at all about the initiative in 1899 were the people that were paid £5,000 a year for knowing all about it. The attitude of the authorities with regard to this secrecy question is an utterly mistaken one. Therefore, I say, the more discussion and the more attention we pay to the quotations that the Lecturer has given us—which I could supplement for two or three hours—the better. I beg to thank him, and I simply congratulate him most heartily on his courage, and on the information he has given us, and I hope that the Institution and all concerned will adopt his suggestions in the fullest sense.

Mr. J. R. Thursfield: I am afraid I cannot enter into the large issues raised by the last speaker, but as an old friend and sometime colleague of the Lecturer, I should like to make one or two remarks on his very interesting and cogent paper, more especially as I suppose I am one of the oldest agents of publicity as regards naval affairs who is still engaged in the study of them. I am entirely in sympathy with the general tone, spirit and purpose of Commander Bellairs' paper, but at the same time I should have liked to hear a somewhat more definite distinction than he has given between what he rightly calls spurious secrecy, and the secrecy which apparently he would regard as essential to the welfare of the country and also the welfare of the services.

For instance, at the close of his paper, he suggests that there should be a secret or semi-secret department in this Institution. Obviously, if certain measures and degrees of secrecy are not necessary there would be no need to have such a secret or semi-secret department. Everything that it occurred to anybody to discuss might be discussed here, provided only it excluded politics, and related to one or other of the Services. But that is not the Lecturer's opinion. It is quite clear that he does mean to indicate that there are questions which cannot be discussed in public, and had better, perhaps, not be discussed at all. But I want to know what they are, and where the distinction comes in between secrecy which is spurious, of which there is, in my opinion, far too much in the present day, and the secrecy which it is proper to maintain.

MANŒUVRE SECRETS.

With regard, for instance, to strategy and tactics, it is now, I think, 25 years since I first went afloat as a correspondent at the naval manœuvres. Down to the year 1906, with some exceptions, correspondents were still admitted. From the year 1906, at any rate, they have been rigidly excluded, from naval manœuvres that is, but I have not heard of any similar exclusion from military manœuvres. I should be glad if any soldier or sailor here can tell me what distinction there is between naval manœuvres and military manœuvres, which makes it expedient that no civilian whatever should be allowed to witness naval manœuvres, even if he gives his word of honour never to say a word about them, and which allows foreign correspondents, and even foreign Attachés to go to military manœuvres, and say anything they like about them. Not being a soldier nor a sailor, I cannot discern for the life of me what the distinction is, but perhaps somebody in this theatre will enlighten me on that point. The reason sometimes given for the exclusion of correspondents from naval manœuvres is that tactics have become much more important, and that while you might disclose the strategy of officers who might be expected to take command in war, and the plans and strategy which were propounded by the Admiralty, yet it was not desirable to let everybody know what your tactics were going to be. Is that a reasonable distinction? I do not know. I do not think it is myself. Mr. David Hannay, in his *Naval History*, says that there are no *bottes secrètes* in war. After all, you are not going to win by some secret method or agency or manœuvre; you are going to win by close fighting directed by high intelligence. Therefore I merely enquire whether the development of the tactical element has made it necessary to exclude all correspondents and all civilians from naval manœuvres. That is a question on which I hope the Lecturer will be able to throw some

light. He says that we should keep our plans for war secret, but that is a different thing. Of course your plans of war must be revised almost from day to day; and to go back to tactics for a minute, even Nelson when he communicated his plan of attack at Trafalgar to his captains, said to Collingwood, "I send my plan of attack, so far as a man may dare venture to guess at the very uncertain position the enemy may be found in." Therefore everything was dependent upon circumstances, and not dependent on some preordained plan, still less on some marvellous combination of science and speed, which we fortunately understand all about and nobody else does. I do not believe in that for one moment.

Then, again, we have far too much of that spurious secrecy, which is often used as a mere cloak, either for self-confident or for incompetent bureaucracy, and I do not suppose anybody in this theatre has any sympathy whatever with it. Further, I would ask in the spirit of the Lecturer, is there any possibility of our really maintaining secrecy in this country? The Admiralty took all sorts of measures outwardly to keep the manœuvres of last year secret. What was the result? They were scarcely over when an account of them, which, I am informed on fairly good authority, was correct as far as it went, appeared in one of the papers that the Lecturer has quoted in his notes. Therefore the Admiralty cannot keep even its own house in order, because, as there was no one there except persons authorized by the Admiralty to be there, the information about these manœuvres must have come from somebody under the Admiralty control. Hence it follows, that you may have all kinds of injurious, clandestine, improper revelations, but you may have no information given by correspondents who, so far as my knowledge, extending over 20 years, goes, have never broken the understanding they went afloat with, and would always be prepared to play the game if the Admiralty gave them a chance of doing so. It was shown, I think, in the negotiations between the Department and the Press, to which the Lecturer has referred, that the Press was prepared to play the game if it had not been such a ridiculous game as the Department asked it to play. I am not pleading for my own job. It is not likely that I shall have any more opportunities of going afloat as a correspondent, even if correspondents are again admitted, but it does seem to me, that the condition of the Navy now, compared with what it was before 1887, is itself a testimony to the advantage of the kind of ordered and regulated publicity for which the Lecturer has pleaded. For that reason, although I could wish that we had had some more precise definition of the distinction between spurious secrecy and secrecy that is proper to be maintained, I desire to say that I am in the heartiest sympathy with the tone and spirit of the Lecturer's remarks.

Lieutenant A. C. Dewar, R.N.: Mr. Thursfield said that success in tactics and in war was due largely to science and to a high standard of intelligence. I think he has rather neglected to take into consideration another factor, namely, surprise, and I do not see how you are going to surprise an enemy unless you keep your movements secret. Secrecy is certainly a most potent factor in war, and strategical secrecy is an absolute necessity, at least, so it seems to me. I think the Lecturer clearly distinguished between the two main aspects of the question, namely, discussion in peace, and discussion in war time. Secrecy is a most potent factor in war, but while we have no means of enforcing secrecy in war, the Admiralty forbid naval officers on the active list to

discuss anything in time of peace. We have a severe muzzling of naval officers in time of peace, but in time of war the Admiralty have no power to censor the Press. They may have Orders in Council drafted to that effect, but suddenly to enforce Orders in Council when war breaks out, will be very much like suddenly putting very tight boots on people just before a long march. Unless editors and the general public clearly understand what is going to be done in time of war, they will not be able to do it, and people will not do it. Mr. Thursfield asked what was the difference between a ship and a regiment? It seems to me that a ship is a species of what Eucken calls a syntagma; it is a thing as a whole, complete in itself. If you let a Press correspondent come aboard a ship you are inviting him into your inner parlour, whereas in military operations he can, so to speak, remain in the garden. A great deal of information floats about in solution on board a ship, and is all through the ship. The midshipman hears the Admiral talking about it, and the midshipman, in the innocence of his heart, is quite prepared to tell the naval correspondent all about it. I am heartily opposed to naval correspondents going on board ship, either for manœuvres or for anything else, and I believe the great majority of the Navy are of the same opinion. Why should Mr. Thursfield be allowed to go on board ship and write excellent articles on our manœuvres, in which I sincerely believe he taught some Admirals more than they knew before? By doing so he converted the Navy into an experimental institution for Europe—a most foolish and unwise thing to do, a thing at which all foreign naval attachés laugh, and which the attachés of our allies severely condemn.

I certainly agree that the Admiralty sometimes make use of the word "public" interests, when they are really supporting "official" interests. If they would, as Mr. Thursfield recommends, clearly define what is to be secret, and let us have some clear schedule of secrecy, I think we would get somewhere, and we would be able to distinguish between spurious secrecy and real secrecy. In this month's *Fortnightly Review*, there is an excellent article by a journalist, which, however, sounds the same note as the Lecturer. It refers a great deal to the democracy. There is a great deal of talk about the democracy and the impossibility of secrecy under democracy. The logical outcome of it all is, that if secrecy is absolutely necessary, and a democracy will not have secrecy, then a democracy will be severely beaten in time of war. But of course the democracy is not averse to secrecy at all: it is the Press which is opposed to secrecy. The Press really are in the same position as the great feudal lords in mediæval times, and the Press requires to be severely controlled. Mr. Thursfield said that everything came out about what happened in the last manœuvres. I took part in those manœuvres, and I cannot say that I discovered that everything came out in the articles he refers to.

Mr. J. R. Thursfield: I never said everything came out. I know very well that everything did not come out, but I said, that what did appear was, I had good reason for believing, probably accurate as far it went.

Lieutenant Dewar: "Probably accurate as far as it went"—that is a somewhat indefinite phrase. Even if a correct account did come out, it clearly ought to have been within the power of somebody to have taken action against an editor who permitted an account of our

Naval Manœuvres to come out in his paper. In regard to Press correspondents, one small item written by a Press correspondent may mean nothing, but out of a number of small items a big mosaic of information can be built up, which may prove a most useful index to foreign staffs in time of war. In an article which appeared in the *Spectator* in 1904, the statement was made that the war correspondent had developed into a spy of the most dangerous description, but I think in any discussion on secrecy we ought carefully to distinguish between the necessity of secrecy in time of war, and freedom of discussion in time of peace.

Sir Theodore Angier: I may class myself as one of the democracy, because I am certainly not an expert. I have served as an agitator to a certain extent for compulsory service and training, and as a patriot of a kind through my Yeomanry service, and getting attached to the Regular cavalry for service during autumn manœuvres, and also my four years' service in the Naval Volunteer Reserve, the formation of which I had a hand in. I joined all those services, and went through the 25 years' service and experience to gain first-hand knowledge. I have been a ship owner all my life, and a fighting one at that, and I wanted to get to know something about what I considered as the sister service to the merchant service. Beyond seeing men-of-war built in shipyards, I could not get at a knowledge of the actual service; it is a very difficult thing indeed for a layman to get this knowledge. You can get into the mess of a Regular regiment, through Volunteering, but you could never get into the wardroom of a battleship to live and serve with the officers, to see and learn the work they do and how they live. However, I did it in a way, so that my knowledge of the services is not altogether, at any rate, zero.

TECHNICAL DISCUSSIONS.

I gather from the paper that has been read by Commander Bellairs, that he complains of the absence of discussion on naval matters at another Association (which I belonged to for a very long time as an Associate), namely, the Institution of Naval Architects. All kinds of papers dealing with matters of construction and engineering come up for discussion there, and are very closely argued, but he is perfectly correct when he says that there is very little discussion on the construction of warships. But there is a very good reason for that—they have not got time for it. It is very rare indeed that they do not have a whole syllabus crammed full of very burning questions dealing with mercantile ships, and I think that is to a large extent an answer to the point. I do not think they can often get room to discuss naval questions at that Institution, although it is a technical Institution, and an enormous amount of information can be obtained from it.

My friend made an observation in regard to the question of encouraging discussion. I quite agree with that, but I do think there must be some limit, and the limitations could be easily made. What on earth would be the use of a party of ladies coming here to help to discuss matters of this kind. You must limit discussion on such questions as those to experts. I could bring you men here who are rather fond of talking; they can talk you right out of the whole building, even on subjects of which they know nothing. We do not want that kind of discussion; it is absolutely worthless and ruinous. But technical discussion I am perfectly certain does no harm whatever. Let the foreigners

know what we are doing. They have copied every blessed thing we have got, and they always will get to know somehow or other. It is an absolute impossibility to keep secrets in the progress of science, they are sure to come out. What is the result of going on as we have done in the past? Thank God, up to the present, we are still in the vanguard in all questions of discovery and invention, and we can keep up that position; and so long as we do keep it up, what does it matter if the world gets to know to-day what it certainly will know to-morrow? I see no objection to it. Then there is another thing we must bear in mind, namely, that we have the capacity of carrying out, perfecting and multiplying the results of our knowledge. Let the foreigners try if they can beat us, or do it quicker, or overpower us. They will always try; you will never stop them. I think all this trying to hide what we are doing, and pretending that we are doing what we are not, is nonsensical and absurd. I think Commander Bellairs' little paper is one of the frankest and best that I have seen for a very long time, because it says fearlessly what is an absolute fact, that concealment to-day is impossible. You will never conceal anything. Have everything in the open, and through the knowledge obtained by means of technical discussion, we shall get strides ahead. Without it we shall lose way.

Admiral W. H. Henderson: I should like to say in general terms that with the principles of Commander Bellairs' paper I thoroughly agree. I take it that he refers particularly to matters during the specified period after 1905, and I think when the history of that period comes to be written, it will be found that there was probably a good deal of waste of public money, which might have been avoided by greater public knowledge and freer discussion. But I am sure things are better now; I am not alarmed that we are not on a better tack.

I must admit, again, it is most exceedingly difficult to draw any line strictly between what is confidential and what is not. But, roughly, I take it, the author has drawn it in this way: he means that there should be free discussion on questions which affect the voter and the taxpayer, particularly as represented in the House of Commons, and that the spending department of a Government—it does not matter which party is in power—should know, that on all points, honesty is always the very best policy. There cannot be any question about that. With regard to the proposal that the Lecturer has outlined as to discussions in this Institution, I do not think as far as the Navy is concerned it will ever be satisfactory. There is great difficulty in getting people here at all: they are all away on service, but I think that means could be devised within the Services, which will provide opportunities for discussion amongst the officers themselves.

Commander Carlyon Bellairs, in reply said: I do not think there is much to reply to, because all the speakers have been most kind to me, and have expressed general agreement with my views. I should like to come across somebody who defends the policy of the Admiralty and the War Office as carried out to-day. The Admiralty have got so far as to prohibit officers from speaking in public or writing on any matter connected with the naval service, unless they first get permission from the Admiralty, and that is always a roundabout process, which no officer cares to undertake. I am very much indebted to Mr. Thursfield for his remarks.

He is, as he claimed to be, practically the oldest publicist living dealing with naval affairs. He has been writing on naval matters for many years longer than any other writer, and he has a great experience on the question. Mr. Thursfield asked me how I would define the difference between cases where secrecy should be practised, and cases where we might have some discussion. I do not think I am called upon to define it; I think the Admiralty and the War Department, as another speaker suggested, should themselves define what their view is, and then we will discuss whether we fall in with it. At the present day they try to suppress discussion altogether. My own view is that the plan of campaign, which necessarily changes almost from day to day, is essentially secret, and, as I said, the moment war is commenced we require complete secrecy. I also think this, that the public has not very much interest in the secrets which have got to be kept secret from the point of view of discussion. No one for a moment imagines that we would assemble here in this theatre to discuss the latest gun director, or something of that sort. We concern ourselves mainly with the general principles of defence and plans of campaign. We would discuss many plans of campaign, and out of the wealth of ideas which come from all the critics who ought to assemble here, the Admiralty and the War Office would get very valuable ideas.

I noticed a remark by Lord Robert Cecil at the Marconi Enquiry the other day, about paid advice. I think unpaid advice is extremely valuable, and the Admiralty recognized that in 1889, when they sent down to the ports and asked full-pay officers to come up and discuss the late Sir William White's paper at the Institution of Naval Architects. Several naval officers went there, and the present Admiral Fitzgerald, who was then Captain Fitzgerald, and others, were by no means kindly critics of the Admiralty, but it made no difference to their future careers. The Admiralty had tolerance in those days, and I suggest that the Admiralty and War Office should have tolerance for officers who differ from them, provided their opinions are put forward in a sane and respectful manner.

QUESTIONS IN PARLIAMENT.

Having been in the House of Commons, I have a good deal of sympathy with those members who are trying to extract information out of the Department. One of the speakers, Admiral Henderson, referred to this matter. So far as questions in the House of Commons are concerned, there are several methods of giving answers. One of them is that it is not in the public interest to answer the question. My own experience is that many times when they say it is not in the public interest to give an answer to a question, it simply means it is not in the official interest. It is generally when there is something to be concealed that they resort to that answer; there is something to be concealed from the official point of view. Then there is another most extraordinary answer, and that is that there is no official information. That means that, in the case of Germany, the German Government themselves have not published any information. The Admiralty have information, but the German Government has not published it; therefore they say there is no official information. I think that is on a par with the old "gag" in Spain. Years and years ago an official declared that the then Queen of Spain had no legs when somebody wanted to sell her some stockings, and officially the Queen of Spain has had no legs for generations past.

There is another method by which the House of Commons is humbugged, and that is by counting things twice over. I have seen that happen over and over again. It happens with the fleet stationed at Gibraltar. When you talk about the Home Station the officials count in the Gibraltar fleet, and when they talk about the Mediterranean fleet they count in the Gibraltar fleet again; and they do the same sort of thing in many cases. It reminds me of an old story of a sailor who had his leg shot off in action, and he got a pension for it. By and bye he had his wooden leg shot off, and he put in for another pension, and got it. Probably the Admiralty acts on that precedent.

With regard to the position of Germany and the secrecy policy, my own view is that the national characteristics and methods of Germany are inherently different from our own, and for us it is far better to adopt the old policy of discussion of the Admiralty and the War Office of 1889. The advantages which Germany would secure from her secrecy policy would be as dust in the balance, compared to the wealth of ideas which we would get from all the great intellects of the Army, the Navy, and civil life coming to this theatre or to the Institution of Naval Architects, to give the benefit of their criticism.

The Chairman (Lieut.-General J. H. Bor): I think that all the speakers, as well as the Lecturer, are pretty well agreed that the true solution of the problem which is put before us by Commander Bellairs, must be a compromise, like many other things in life. We must encourage free discussion amongst the unofficial and irresponsible people—encourage it by all means, provided they have competent knowledge. But I do think that no person in a responsible position, responsible to the Government and to the country, should be allowed to discuss his technical subject without control of any sort. Certainly from a disciplinary point of view it would never suit the fighting forces of this country, either the Navy or the Army.

It is getting late, and I will not say any more beyond asking you to join with me in according a very hearty vote of thanks to the Lecturer for the interesting paper he has taken the trouble to prepare and read to us.



GENERAL ROBERT CRAUFURD AND HIS CRITICS.

By ALEXANDER H. CRAUFURD.

NONE of Wellington's other Generals was nearly so difficult to understand and justly appreciate as Robert Craufurd, Commander of the famous Light Division.

The characters of Hill, Picton, Beresford, Lord Lynedoch, and Stapleton Cotton were all simple and easily intelligible. To some extent, Sir William Napier realized the difficulty of truly understanding his old commander, when he wrote these words concerning him: "If ever the Manichean theory was made manifest in man, it was in Craufurd." But, when expressing this opinion, Napier was, in Emerson's language, "wiser than he knew." His words, like some of those of the great Hebrew prophets, had a far wider range of significance than the writer was aware of.

Craufurd's character was an extremely complex one, full of inherent contradictions. His nature was never "as a city that is at unity with itself." In a letter to his wife he said correctly enough, "My whole life seems to have been passed in a kind of storm." To impartial outside observers, his nature was at once an enigma, and an incarnate paradox. He was, as Professor Oman perceives, a man of widely varying moods. At one time he was perilously rash in action, and at another time—as at Busaco and Fuentes d'Onoro—admirably cool and wary. He was a most severe disciplinarian, yet averse to punishment. Like Wellington and Picton, he firmly believed in the necessity of rather brutal severity towards the men, and yet his sensitive feelings made him detest such severity. He was at once stern and often unrelenting towards his soldiers, and full of consideration for their comfort and their welfare. His temperament was at once melancholy and hopeful, in some ways almost morose, and in other ways genial and much given to laughter. His external bearing towards his fellows was habitually proud, whilst his inmost soul was full of humiliating consciousness of his many faults and sins. He was neglectful of the ordinances of religion, and yet often greatly exercised in mind by its hard and insoluble problems, as is made manifest enough by his letters to his wife. He was profoundly affectionate, yet most irascible. He was, as Sir George Napier perceived, instinctively benevolent, yet easily irritated into fierce transient hatred. At first cordially disliked by most of

his officers, he was ultimately much valued by many of them. The feelings of his men towards him were a strange mixture of dread, keen admiration and affection, together with an almost boundless confidence in his genius for war. He was far the most quick-sighted, active, and vigilant of Wellington's Generals, and yet he was, on some few occasions, rather careless. He felt much respect and admiration for his chief, and yet he sometimes disobeyed him. His actions were sometimes no adequate expression of his deepest thoughts and habitual intentions. Delighting in war, he was yet always longing for his domestic life.

Hence arises an almost insuperable difficulty in fairly estimating his character, his talents, and his services.

And this difficulty has been much increased by the fact that Craufurd was unfortunate enough to incur the bitter hostility of Charles and William Napier, who almost invariably wrote of him with a pen dipped in gall, though in his later life Charles Napier seems to have often spoken of the fiery leader of the Light Division with a good deal of admiration, as I was informed by my friend the late General William Napier, a son of Sir George.

On one occasion Charles Napier accused General Craufurd of "ignorance of cavalry." This charge is manifestly absurd. When he made it, Napier was a very young man with no great experience. But his hastily formed opinion came to have a very undue weight attached to it, when it was published as the deliberate verdict of the conqueror of Scinde.

Craufurd's great practical knowledge of the Austrian Army, coupled with the fact that, together with his brother Charles, he had translated the chief official Prussian treatise on the art of war, constitutes a sufficient refutation of Charles Napier's accusation.

That Craufurd was by no means "ignorant of cavalry" is clearly proved by the very high estimate of his knowledge expressed by the admirable colonel of the 1st German Hussars, who so long served with the Light Division.

In a letter written to Craufurd's widow in the year 1814, William Campbell, formerly Brigade-Major of the Light Division, tells her that this German colonel had recently expressed his ardent wish that Craufurd had still been with them, saying that there was not one man in his regiment who would not willingly have given up his best horse, if, by so doing, he could once more secure the presence of their old General.

In our days Robert Craufurd has found a most able defender in Professor Oman. But Mr. J. W. Fortescue, in Volume 7 of his very valuable History of the British Army, has made a rather violent attack on the old leader of the Light Division. In fact, he seems to have carefully raked together all that has been said against this General, whilst to a great

extent ignoring very much that has been justly said in his favour.

So, as Robert Craufurd was certainly one of the most famous of Wellington's coadjutors, it seems quite worth while to endeavour to reply to Mr. Fortescue's criticisms. Those that refer to the General's *character* appear to be the worst and most damaging. Consequently, I propose to deal with these first, and afterwards to consider those that are depreciative of his talents for war.

Mr. Fortescue declares that Craufurd, like Picton, had "no refinement." This accusation can scarcely be justified. The leader of the Light Division was a much more scholarly and highly-educated man than Wellington. He knew French and German thoroughly. He habitually carried about with him the writings of one of the great French humorists. He had lived in good society, and he was descended from one of the oldest families in the south of Scotland. Mr. Fortescue might also have remembered that Craufurd had been sent on a prolonged military mission to the Austrian Army, together with his brother Charles, and that, when this brother was seriously wounded, Robert had charge of the mission, and discharged its duties—which required considerable tact—with much success. So his critic might well allow him some rudiments of refinement.

Craufurd's temper was certainly a very violent one—but that scarcely justifies Mr. Fortescue in saying that "his temper was fiendish, and his instincts tyrannical." A really fiendish temper would seem to imply sustained malignity of disposition, and of this there is no trace in Craufurd's character and history. Moreover, Sir George Napier has testified that the temper of his old commander was gradually becoming milder.

It is also evident that very considerable severity was then necessary, if the officers and men of the Light Division were to be trained effectively. By a curious coincidence, after condemning Craufurd's harshness, Mr. Fortescue, in the very next page of his volume, gives us a terrible account of the abominable and criminal behaviour of many of the men. Great severity was absolutely necessary if crime was to be repressed.

As regards the *officers* of the Peninsular Army, Wellington's opinion of them was far from being a high one. In a letter to Craufurd about camp kettles, he declared that, in the great majority of his regiments, the officers could not be trusted to perform some of the most ordinary duties.

A very large part of Craufurd's unpopularity with many of his officers was caused by his stern determination to oblige them to do their work efficiently. A story given us in Cope's "History of the Rifle Brigade" well illustrates this truth. A young officer named Smith was accompanying some ammunition. When he arrived at the quarters of the General, he was

both tired and hungry, so that he was much disgusted at receiving an order to prolong his journey. Consequently, he disobeyed the order. Next day, Craufurd put him under arrest, and, with a great oath, threatened to smash him. A long time after this, when conversing in a friendly way, Craufurd told young Smith what had been the result of his disobedience. He said that he found his ammunition steadily going over to the enemy, and that he had only just time, by spurring his horse, to rescue it.

Though the commander of the Light Division was for a long time cordially detested by many of his officers, some of the very best of them, such as his Brigade-Major, William Campbell, and his aide-de-camp, Shaw Kennedy, were much attached to him; and Kincaid, the adjutant of the 95th Rifles, has testified that he was "*ultimately* much liked."

So far as concerns the *men* serving under him, there is ample evidence that they eventually came to like as well as value their General. In the harassing retreat to Vigo, "Rifleman Harris," who was a private, thoroughly approved of Craufurd's iron discipline, and declared that it was absolutely necessary. Harris was extremely devoted to his commander. He wrote thus of him in his interesting little book: "Indeed I do not think the world over saw a more perfect soldier than General Craufurd. . . . It was gratifying, too, to me to think that he did not altogether think ill of me, since he has often addressed me kindly when, from adverse circumstances, you might have thought that he had scarcely spirits to cheer up the men under him."

Another man who served under Craufurd has recorded his opinion that the General hated the necessity of attending a parade for punishment, and that having to attend one ruffled his temper for the rest of the day.

Costello for long served in the ranks under Craufurd, in the 95th Rifles. He was a very intelligent man; and in his little book called "Adventures of a Soldier," he distinctly tells us that Craufurd "though a most strict disciplinarian, was averse to punishment, and beloved by the men for his justice, his gallantry, and his care for their wants." This writer also gives us a striking instance of Craufurd's great unwillingness to punish a man who was a really good soldier. He tells us that a sergeant of the 95th Rifles, named Fleming, was accused of knocking down and ill-treating an officer of the Brunswickers—temporarily attached to the Light Division—who appeared to be about to desert to the enemy. Costello says that this sergeant was tried by a court martial, convicted of the assault, sentenced to be reduced to the ranks, and to receive a corporal punishment of 500 lashes. But Craufurd, after saying to Fleming that his crime would be quite inexcusable, if it really was exactly of the sort described, took upon himself to remit the corporal punishment, on account of the excellent character

for gallantry and honourable conduct given of this sergeant by his own officers. And Fleming was soon afterwards reinstated in his rank.

No doubt, Craufurd was in some sense a martinet; but he was not a fussy and teasing martinet. He was essentially a rational, considerate, and benevolent martinet. And so Kincaid tells us that, though at first the men detested his strict rules, they ultimately became devoted to him, when they became aware that all his rules were designed for their comfort and well-being.

One extremely hostile officer has charged Craufurd with cruelty because, on one occasion, he had a man flogged for halting, in order to drink water, as his regiment was crossing a stream. Probably this man was an old offender. And Kincaid justifies the General's severity towards him. He wrote thus on the subject: "He showed that the comfort of every individual depended on the rigid execution of his orders; for he showed that, on every ordinary march, he made it a rule to halt for a few minutes every third or fourth mile, dependent on the vicinity of water; that every soldier carried a canteen capable of containing two quarts, and that, if he only took the trouble to fill it before starting, and, if necessary, at every halt, it contained more than he would or ought to drink in the interim, and that, therefore, every pause he made in a river, for the purpose of drinking, was disorderly, because a man stopping to drink delayed the one behind him proportionately longer, and so on progressively, to the rear of the column."

It is probable, as Kincaid intimates, that Craufurd's burning zeal for the efficiency of his troops caused him at first to enforce his rules with some rather unnecessary severity. But the same writer informs us that, once well established, the system went like clockwork, and punishment was seldom necessary. In short, Craufurd, in the earlier stages of their training, treated his men as ignorant, thoughtless, and childish. And this treatment was approved of by Wellington, when in a letter to the leader of the Light Division, he described the soldier of those days as being "the most thoughtless of animals." Craufurd was impatient, but not cruel.

That the men of his division ultimately came to value and like their passionate leader is amply proved by the vigorous and prolonged cheers with which—as Costello tells us—they received him when he returned, from absence on leave, just as the battle of Fuentes d'Onoro was about to begin. The men had had enough of the incompetent General Erskine, who had temporarily taken Craufurd's place, and they were delighted at the most opportune return of their old trusted commander.

The very worst charge made against Craufurd by Mr. Fortescue is to be found on page 486 of Volume 7, when he says that "It was the misfortune of this little, quick-tempered,

and black-muzzled man, that he could never think of anyone but himself."

This accusation is certainly a very mistaken one. It agrees very ill with the account of Craufurd's funeral given us by Gleig—afterwards Chaplain-General—who witnessed it, and was greatly impressed by it, and afterwards wrote these very significant words about it: "I could distinctly perceive that, among the six rugged veterans who had borne the body, there was not one dry eye, and that even of the privates, who looked on, there were few who manifested not signs of sorrow, such as men are accustomed to exhibit only when they lose a parent or a child."

When one remembers how much that was calculated to harden their feelings these soldiers had gone through, Gleig's testimony seems quite conclusive. The British soldier was and is no mean judge of character, and it is utterly incredible that he should display such profound sorrow for the death of a leader who could never think of anyone but himself. Nor was his affection for his General merely transient. Gleig, in a book published very long after the writer's death, has told us that the surviving soldiers of the Peninsular War were often full of stories about the kindness of Generals Hill and Craufurd.

Mr. Fortescue's very harsh accusation is also disproved by the very strong friendship and affection felt for Craufurd by a good many officers of really fine character. For instance, Sir William Napier, in his life of his brother, Sir Charles, speaks thus of William Campbell, the Brigade-Major: "He was known then and afterwards throughout the Army for every generous quality. He was sententious of speech, quixotic of look, but handsome and strong; and his sentiments of honour were worthy of a Spanish don, his courage as high, yet purged of folly; he was indeed a gallant English gentleman in thought, look, word, and deed."

Between this fine officer and Robert Craufurd there existed a singularly warm and persistent affection. Writing to Sir Charles Craufurd, after his brother Robert's death, Campbell declares that his heart "breaks to speak," and he says, "I am incapable of expressing my misery and the blank which his death has left in my heart." Writing to Sir William Napier about 20 years after Craufurd's death, he still speaks of him as "my much-loved friend."

To have been so fervently loved by a man like William Campbell is in itself a good proof that Craufurd was not the selfish brute that Mr. Fortescue supposes him to have been.

Lord Londonderry also, in a letter to his friend, Sir Charles Craufurd, poured forth an eloquent lament over his dead friend, the leader of the Light Division. He said: "I hope you know me sufficiently to believe what I must suffer on the present occasion. Where shall I ever again find so invaluable a

friend?" And in his "Narrative of the Peninsular War," Lord Londonderry also said of Craufurd, "He was a man to know whom in his profession without admiring was impossible. To me his death occasioned that void which the removal of a sincere friend alone produces. Poor Craufurd! whilst the memory of the brave and skilful shall continue to be cherished by British soldiers, thou wilt not be forgotten; and the hand which scrawls this humble tribute to thy worth must be cold as thine own, ere the mind which dictated it shall ever cease to think of thee with affection and regret."

Lord Londonderry was not a man of great intellect, but he was a gallant officer, a man with a very warm heart, and in every way a gentleman; and he knew Robert Craufurd very intimately. So his testimony to his character is decidedly valuable.

Sir George Napier, in his "Early Military Life," has left us a far more discriminating and just estimate of Craufurd's character than that recently given us by Mr. Fortescue. He says that the General was always kind to him, and willing to do him a service when it was in his power. And he gives us a touching account of Craufurd's disinterested and strong regard for him when he—George Napier—was wounded, and when his old leader was dying in the same house. He tells us that, amidst his very great sufferings from his mortal wound, Craufurd kept on sending "almost hourly messages" to Napier, to express his strong sympathy with him, and his approbation of his conduct. And *this* was the General depicted by Mr. Fortescue as incapable of thinking of anyone but himself. George Napier knew the heart of his old commander far too well to judge it in that way. He said that he himself would be an unfeeling brute if he had not been touched with gratitude for Craufurd's sympathy. He also left on record his opinion that the first impulse of Craufurd's heart was kindness, though the least opposition speedily made that kindness vanish. Mr. Fortescue must have forgotten George Napier's testimony.

This writer also accuses Craufurd of immense egotism. He says that he was always thrusting himself forward and urging his claims. As a matter of fact, Craufurd was *compelled* to act in this manner. His promotion had been quite extraordinarily slow, though he had good interest and had performed much valuable work. Considering his great abilities, it was natural enough that he should think himself deserving of a position in the army at least equal to that of a thoroughly mediocre officer, such as Stapleton Cotton was.

That the leader of the Light Division was not entirely egotistical, was made evident by the fact that at Busaco he appealed to the men's memory of Sir John Moore, and not to any claims which he himself might be thought to have on their allegiance. When he cried aloud, as he let loose on the French the regiments which he had hidden, "Now, 52nd, avenge the

death of Sir John Moore!" he certainly made it evident that he was capable of thinking of someone besides himself, at least occasionally.

When Mr. Fortescue ceases to attack Craufurd's *character*, and deals with his military talents, he writes of him with considerably greater justice. He says that he was the best man in the Army for outpost work, and also one of the best trainers of troops. He also says that he did "superlative service" when in charge of Wellington's outposts in the year 1810, and that he then "gave striking evidence of his very remarkable ability." He also says that Craufurd did better than any of the other Generals at the battle of Busaco.

But this critic's intense dislike of Craufurd causes him—quite unintentionally—to give a rather unfair account of his services in general. Thus, when describing the retreat to Lisbon, he sets forth some apparent carelessness of this General, whilst omitting to notice what Sir William Napier wrote in his favour on that occasion. Napier wrote thus of the way in which Craufurd then baffled Masséna. "The ground about Aruda did not give Masséna a view of the troops, although he frequently skirmished to make Craufurd show his force; but that General, by occupying Aruda as an advanced post, had rendered it impossible to discover his true situation without a serious affair, and in an incredibly short space of time he secured his position in a manner worthy of admiration."

Mr. Fortescue evidently considers Craufurd's rashness a good deal more *habitual* than it actually was. He declares that he "seldom shone in action," and he thinks that this was due to his excitable temperament, as he considers that so accomplished a master of outpost work must have surveyed the ground with no common eye.

Yet at Busaco and at Fuentes d'Onoro, it is evident enough that Craufurd displayed admirable coolness. His magnificent retreat over the plain at the latter place has been immensely admired by the most competent judges, and it is obvious enough that the perfect coolness of Craufurd and his men was then very largely instrumental in saving Wellington from defeat.

The greatest mistake of Craufurd's career was his fighting on the wrong side of the river Coa, contrary to Wellington's wishes. Sir George Napier evidently thought that the leader of the Light Division was eventually taken by surprise, and that he did not intend to fight any large force. He seems to have considered himself bound to prevent the investment of Almeida by any small or moderate force. And Wellington's disgust at the premature fall of this border fortress later on shows that he thought it important to retain it as long as was reasonably possible. Mr. Fortescue declares that, in this combat, Craufurd "made every mistake that a commander could make."

This statement is a great exaggeration, as anyone can find out by reading Craufurd's defence of his conduct, printed in the *Times* for November 21st, 1810, and reproduced in my book called "General Craufurd and his Light Division." Mr. Fortescue has probably been a little misled by the fact that almost all the accounts of the combat on the Coa were written by officers who hated Craufurd. Sir James Shaw Kennedy unfortunately did not take much part in the battle. Otherwise from him we might have received a really impartial account of it.

Though so much has been written about the combat on the Coa, there still remains a good deal that is obscure and unintelligible. In the first place, it is not evident to what extent Craufurd calculated on receiving the assistance of Picton, who had been ordered to support him. Moreover, it is not clear why he kept some of the 43rd within high walls; but it is evident that so accomplished a master of outpost work must have had some reason for this arrangement. Mr. Fortescue and other writers censure Craufurd for prematurely ordering the troops posted on a knoll which commanded the passage over the Coa, to retire, "forgetting half a battalion of the 52nd, which was still holding its ground nearly a mile up the river." It seems probable that this half battalion of the 52nd had either failed to receive an order to retire which had been sent to them, or else that they were slower in their movements than the General expected them to be.

One detail of Mr. Fortescue's account of the combat on the Coa is quite incredible. He says that "even then"—when the troops had passed over the bridge—"the General appears not immediately to have realized that the bridge must be defended; for the first and most urgent disposition for defending it was left to Charles Napier with such mixed men of all regiments as he could collect." The necessity for defending the bridge was so very obvious that it is utterly unlikely that the General did not at once perceive it. It seems far more probable that Charles Napier rather over-estimated his own services, and that he did what someone else would otherwise have been ordered to do.

One of Craufurd's mistakes certainly was that he placed too much confidence in the Governor and garrison of Almeida. In the "Life of Sir William Napier," by H. A. Bruce, we find the following remark by that great historian: "Colonel —, of Almeida, was very negligent in not putting some men into the windmill in front of the works. It would have delayed the investment, and have given time to General Craufurd to withdraw his Division in safety." Napier also thought it a great piece of neglect that some guns belonging to the garrison of Almeida were not mounted, and the tower garrisoned. He said that "had it been otherwise, the French cavalry could not have charged the left of the position, and the after-investment of Almeida would have been retarded."

Even whilst condemning Craufurd's rashness on the Coa, and granting that some of his arrangements on that occasion were not good, one ought to bear in mind that the marvellous regimental discipline, which then prevented disaster, was to a very great extent the creation of the General himself. He had, as Kincaid declared, "*introduced* a system which made his division unrivalled." Craufurd had communicated to his officers and men some of his great knowledge of outpost work, and some of his extraordinary quickness both of perception and of movement. On that most trying occasion, in that hour of supreme danger, the regimental officers were, to a great extent, giving back to their brilliant teacher what he had given them.

Kincaid informs us that the officers, in the latter part of Craufurd's career, a good deal altered their feelings towards him. And it seems a pity that Mr. Fortescue has attached rather undue importance to the expressions of hatred which these officers recorded of their leader in the earlier stage of their connection with him. Kincaid declared, as I have said already, that Craufurd was "*ultimately* much liked," and that "a very rigid exaction of the duties pointed out in his code of regulations made him very unpopular at its commencement; and it was not until a short time before he was lost to us for ever, that we were capable of appreciating his merits, and fully sensible of the incalculable advantages that we derived from the perfection of his system."

Mr. Fortescue owns that Wellington had a very high opinion of Craufurd's abilities. For he says that "few more flattering letters have ever been written than the one which Wellington addressed to Craufurd," when giving him entire command of his outposts. And in one of Wellington's letters to Craufurd he says that "nothing could be of more advantage to me than to have the assistance of your opinion on any subject."

Professor Oman has also said that Hill, Craufurd, and Beresford were the only Generals whom Wellington ever *consulted* about anything. The rest of the Generals merely received orders.

Craufurd's recent critic has also forgotten to mention the great and lasting value of that General's "Standing Orders for the Light Division." He might also have mentioned that Lord Seaton said that Craufurd taught the British Army how to march properly. Surely that was a very great and important service.

Sir William Napier declared that Craufurd in his better hours was "full of fire and intelligence, a master spirit in war," and, in an appendix to his history, he wrote thus: "As for the charge of faintly praising Picton's talents, a point was forced by me in his favour, when I compared him with Craufurd, of whose ability there never was any question."

Sir George Napier, who served for long under Craufurd in the 52nd, wrote thus of his old commander's talents: "As a General commanding a division of light troops of all arms, Craufurd certainly excelled. . . . Although he was a most unpopular man, every officer in the Light Division must acknowledge that, by his unwearied and active exertion of mind and body, that division was brought to a state of discipline and knowledge of the duties of light troops, which was never equalled by any division in the British Army, and never surpassed by any division of the French Army. . . . His knowledge of outpost work was never exceeded by any British General." George Napier also said that, when his passions were not roused, few men possessed more clearness of judgment. One obvious reason why Wellington was ready to condone Craufurd's occasional rashness is to be found in the fact that he had to complain greatly of the *timidity* of some of his other Generals. In his "History of the Peninsular War," Napier says of Wellington, "To the ministers, however, he complained that his Generals, stout in action as the poorest soldier, were commonly so overwhelmed with fear of responsibility, when left to themselves, that the slightest movement of the enemy deprived them of their judgment, and they spread unnecessary alarm far and wide."

General Le Marchant said of Craufurd: "Whilst others shunned responsibility, he courted it." Craufurd's audacity was often of great value to his Chief. Napoleon would have been glad if some of his Marshals had had more of this quality. And it will be an evil day for the British Army, when its leaders shrink from responsibility, and become devoid of that extraordinary and unflinching daring which made Robert Craufurd so dangerous to the enemy, and which, together with his unsurpassed power of training troops, and his large knowledge of the art of war, has caused Professor Oman to declare that, "on one of his happy days, which were many," the old leader of the Light Division was "undoubtedly the most brilliant subordinate that Wellington ever owned."



THE ARMS OF GENERAL ROBERT CRAUFURD.

LATEST IMPROVEMENTS IN GUNS AND ARMOUR.

[Translated from *Nauticus*, for 1912, and published by permission.]

The original article is illustrated by 25 plates and diagrams, which have been omitted owing to want of space.—ED.

HEAVY SHIPS' GUNS.

Disposition.

THE most recent development of the modern battleship is characterized by a constant increase in gun efficiency in broad-side fire. The advantages of the different dispositions were discussed in detail in *Nauticus*, for 1911, in "The Development of the Modern Battleship."

The restriction in the number of turrets imposed by the increased displacement required for numerous heavy guns, and partly also the desire to strengthen the end-on fire, have induced Austria, Italy, Russia and the United States to introduce the triple turret, which at the same time makes it possible to effect either a saving in weight or an increase in the number of guns.

In *Nauticus*, for 1910 and 1911, the advantages of the triple turret have already been discussed in detail, its technical serviceableness being admitted. Information is not yet forthcoming as to the practical experience. At present, therefore, only the technical difficulties of the problem, such as considerations of technical gunnery, will be briefly touched upon.

The purely constructive question of checking the greater circumferential shock appears to be solved. Nevertheless, the torque in firing a side gun will always be more perceptible in the triple turret than in the double turret, though it was found to be quite disturbing there, in independent firing of both guns of a turret, and in the joint working of the elevating gear and in simultaneous firing.

In the latter case, even the slightest difference in the time of ignition of the charges is the cause of some of the shot falling late. Such differences can certainly be reduced to a minimum, but can never be quite eliminated, and a period of a hundredth of a second can give a projectile a start of about 5 m. (16.4 ft.). The first shot has already left the muzzle, and the turning movement has already begun while the second projectile is still in the bore. The lateral deviations of the point of impact thus caused, are comparatively trifling in the case of

the double turret, and are only worth consideration when using small targets. In the triple turret, on the other hand, they may be of considerable importance, in spite of the greater inertia of the heavier bulk.

In designs with an arrangement of all three guns in a horizontal line, the distance of the axis of the bore of a side-gun from the centre of the turret amounts to at least 2.25 m. (7.4 ft.), in the case of 30.5 cm. (12 in.) triple turrets, and to half that amount in double turrets.

In this respect, the arrangement contemplated in Italy, as mentioned in the Press, appears worthy of notice; in it the middle gun is placed in a higher position and the side-guns are brought closer together. That, of course, requires the placing of all three guns in one joint cradle, or in several cradles rigidly connected together. It is only conceivable when loading in any position is practicable. Rigid connection of the cradles must allow of the use of corrections for every gun within reasonable limits, in order to eliminate individual differences in the jump, as well as the wearing out of the gun. It is stated in the *Rivista Marittima*, on information from the Italian Armstrong Works, that in firing with one side-gun alone the angle of turning is $2^{\circ} 20'$ in a double turret, and 4° in a triple turret (guns in one plane). These are unusually great results, which should not occur with a well constructed mounting; however, the figures give a comparative value.

There will always be difficulties in the matter of a sufficient and uniform supply of ammunition for the triple turret. The removal of these difficulties will entail great demands on the magazines and working chambers, especially with regard to space.

When both are erected in a similar position, the arc of training on either side of a triple turret (guns in one plane) is about 20° smaller than with a double turret. However, for an equal number of guns, the triple turret admits of a smaller number of turrets, so the saving in space makes up for the smaller arc of training. Further disadvantages are the aggregation of the guns, the increase in target surface of the individual turret, especially in groups of superimposed turrets, and the greater interference from smoke under certain conditions. The possibility of being able to fire turret salvos is an assumption in favour of the triple turret with regard to shooting. This question is closely connected with that of a satisfactory coupling of the guns. The decision as to the introduction of the triple turret must, before everything, be dependent on the solution of technical shooting difficulties.

Increase in Calibre.

The calibre of heavy guns has been steadily increasing since Great Britain gave the impetus by the introduction of the

34.3 cm. (13.5-in.) for battleships and battle cruisers, and the United States by the 35.6 cm. (14-in.). The reasons for the increase have already been thoroughly discussed in *Nauticus*.

The 30.5 cm. gun (12-in.) L/50, with an initial velocity of about 900 m. (2,953 f.s.) for a projectile of 385 kg. (850 lbs.) weight, and 16,000 metre tons (51,633 ft. tons) muzzle energy, had reached the limit of efficiency ballistically as well as in regard to the effect of the projectile. The bursting effect of armour piercing shells and the perforating power with oblique angles of incidence, were no longer sufficient in view of the increase in fighting range.

In order to increase the effect of the projectile, there was still the possibility of lengthening it to about four calibres by raising the weight to 440 kg. (970 lbs.), as in the French *obus alourdi* of the 30.5 cm. (12-in.) K.M.06. There are these restrictions, however: the fact that the ballistic properties of projectiles become worse as the length increases; the great stability of the axis of the projectile due to the great rotation necessary to prevent turning over, thereby making doubtful the tangential position of the axis of the projectile to the trajectory; and finally the greater wear and tear of the guns due to the heavier projectiles used.

It follows that the desirable increase in power of penetration and bursting effect can only be attained by means of increased calibre.

The following advantages may be assigned to greater calibre:—

1. Increase in the effect of the individual hit as regards power of penetration and bursting effect with lower initial velocity, *i.e.*, with the use of proportionately shorter and lighter guns.
2. The possibility of reducing the blast and relative charge, in consequence of which greater effect can be obtained with relatively smaller wear and tear, and greater duration of life.
3. The better ballistics of the shorter wire-wound gun compared with that of 50 calibres.
4. Guns of heavier calibre are less affected at long ranges by the errors of the day, such as wind and atmospheric pressure.
5. Possibility of decreasing the number of guns while retaining the same total broadside effect and thus simplifying the disposition.

On the other hand, there is the ballistic disadvantage of lower initial velocity, which, however, may be counter-balanced at long ranges by the smaller loss of speed of the heavier projectile.

With regard to 1, it may be added that the armour piercing shell of heavier calibre may admit of a greater weight of charge per cent. without losing the necessary power of penetration.

Engineering states that the admissible weight of the bursting charge of armour piercing shell is equivalent to:—

In the 30.5 cm. (12-inch)	about 3 per cent.	= 11.5 kg. (25½ lbs.)
„ 35.5 cm. (14- „)	„ 3.5 „	= 22 kg. (48½ lbs.)
„ 38.1 cm. (15- „)	„ 4 „	= 31 kg. (68½ lbs.)

The armour piercing shell of the 38.1 cm. (15-in.) B.L. gun has thus actually about the same weight of bursting charge as the 30.5 cm. (12-in.) high explosive shell, with 8 per cent. bursting charge, and is, besides, incomparably more effective against armour. For calibres of 35.5 cm. (14-in.) and upwards the use of armour piercing shell as a standard projectile appears possible.

In deciding on the lines of further development, doubts have probably arisen in Great Britain also, as to whether the results obtained at the proof butts with regard to power of penetration would be attained at fighting ranges with very long projectiles, on account of the position of the axis of the projectile not being tangential to the trajectory, or by reason of pronounced oscillations, which made it appear desirable to have a certain surplus in theoretical penetrative effect, and favoured the introduction of a heavier calibre.

The question as to whether the projectile in point of fact always approximates to a position tangential to the trajectory, has been subjected to a searching investigation by the experiments with the "Iéna" in France, and with the "Katahdin" in the United States of America.

It has only transpired with reference to the French experiments that proof-ground results were confirmed, while the annual report of the Bureau of Ordnance of the United States Navy clearly states that the experiments had indisputably shown that in the first place the axis of the projectile is always tangential to the trajectory, and that further the penetrative effect of the projectiles at fighting range is identical with that obtained at the proof butts. Details of the experiment were given in *Nauticus*, for 1911, page 100.

It is noteworthy that in the "Katahdin" experiments the 30.5 cm. (12-in.) armour piercing shell without burster, penetrated a hardened plate 254 mm. (10-in.) thick and broke in pieces, so that the expected explosive effect would not have taken place. According to the conditions of acceptance, they must penetrate the plates in a detonating condition. The fact in itself would speak in favour of the heavier calibre, the projectile of which—by taking a larger explosive charge—offers greater certainty of penetration in a detonating condition, even with an unfavourable angle of incidence.

For the time being, the British, French, Japanese, Italian and United States Navies have decided to introduce guns of heavier calibre. The following table shows the data known of guns introduced or projected :—

[British Equivalents in Brackets.]

	Calibre.	Weight of gun. Tons.	Weight of projectile.	Weight of bursting charge.	Initial Velocity.	Muzzle Energy.	Energy per kg. gun weight.
Great Britain	34.3 cm L/45 (13.5 in.)	(77.2) 80	567 kg. (1250 lbs.)	?	About 800m. (2625 ft.)	About 18500 metre tons (59700 ft. tons.)	231 mkg.
France	34 cm. L/45 (13.4 in.)	67	540 kg. (1190 lbs.)	25 kg. (55 lbs.)	?	20250 metre tons (66348 ft. tons.)	302 mkg.
U.S.A. (Ships Guns)	35.6 cm. L/45 (14 in.)	65	635 kg. (1400 lbs.)	29 kg. (64 lbs.) 14.5 kg. (32 lbs.)	793 m. (2602 ft.)	20340 metre tons. (65659 ft. tons.)	312 mkg.
Japan (pro- jected.)	35.6 cm. (14 in.)	66.3	847.7 kg. (1869 lbs.)	?	?	?	

In Italy, a heavier gun—probably 35.6 cm. (14-in.)—now being experimented with, has been determined on for the successors of the "Cavour" class; in addition, a 40.6 cm. (16-in.) gun is said to be under construction.

Great Britain is engaged at the moment with the trial of a gun known as the 13.5-in. A (34.3 cm.), which probably has a calibre of 38 cm. (15-in.). The 34.3 cm. (13.5-in.) was also known at first as the 12-in. A (30.5 cm.). For the present, however, an improved 34.3 cm. (13.5-in.) gun, with a projectile about 45 kg. (99.2 lbs.) heavier, and increased initial velocity, is said to be adopted, until proceedings abroad make a further increase of calibre necessary. The relative length of bore in all these guns is shortened as compared with the 30.5 cm. (12-in.). The lengths admissible in view of requirements appear to be 45 calibres with the 34.3 cm. (13.5-in.) gun, 40 to 45 calibres with the 35.5 cm. (14-in.), and 35 to 40 calibres with 38 and 40 cm. (15-in. and 15.7-in.).

Notwithstanding the use of power, a decrease in the rate of fire cannot be avoided with increasing calibre, on account of the greater weight of the ammunition. The British state that the rate of fire of the 34.3 cm. (13.5-in.) gun is only slightly inferior to that of the 30.5 cm. (12-in.); however, in the United States it is calculated that the 35.5 cm. (14-in.) gun has a rate of fire of only one shot per minute, and it is hoped from this to obtain advantages for simplification of the turret arrangements. The passing of cartridges by hand, generally employed with the 12-in. gun, will be tested with the 14-in.

Moreover, the heavy calibre gun requires in a greater measure than hitherto machinery for passing the projectiles

and for the loading arrangements. Should the machinery break down, the rate of fire will decrease in a far greater measure, even if projectiles of 600 kg. (1,323 lbs.) weight can be passed at all by hand.

WIRE-WOUND AND BUILT-UP GUNS.

While all other navies have given preference to the jacket and hoop method of construction (built-up) for ship's guns, the British, at present, adhere to the wire-wound gun, although several large private firms in Great Britain have successfully taken up the construction of built-up guns.

The designs published by the firm of Vickers, for 25.4 (10-in.) and 30.5 cm. (12-in.) built-up and wire-wound guns L/50, show a considerable superiority with regard to utilization of material in the case of the built-up gun. A remark in *Engineering* of the 12th August, 1910, referring to these guns, is significant: "Now that steel of a thoroughly reliable character is obtainable for guns, there is not the same objection to the use of steel rings shrunk on to reinforce the inner tube instead of wire, especially as the latter is more expensive to manufacture."

The inference might be drawn that the wire construction was a way out of a dilemma. That appears to be confirmed by an observation of Lieutenant Dawson, who expressed the official view in Great Britain about 1880, the time of the introduction of the wire-wound gun, as follows:—

"Steel, as at present made, while suitable for an inner barrel, from being hard and of high tenacity, has little margin between its limit of elasticity and rupture, and tubes made of this material are consequently liable to fly to pieces suddenly without warning. The brittleness of this material prevents us, therefore, from constructing a gun entirely of steel."

Although, among other things, less weight has for a long time been assigned as an advantage in the wire construction, on account of the excellent utilization of the theoretical tensile strength, to-day the wire-wound gun is actually the heaviest of all, which *Brassey's Naval Annual*, for 1911, tries to represent as an advantage on account of the smaller recoil of the gun. The relatively heavy weight of the tube is in itself no reason for rejecting a construction, so long as it is efficient. The fatal weakness of the wire-wound gun is, and will be, the deficient longitudinal stress, as well as the unequal and undulatory expansion and contraction of the bore on firing, for which the use of a thin inner tube in conjunction with the layers of wire is responsible.

The following results are taken from an article by Captain H. J. Jones, Inspector of Ordnance Machinery, which appeared in *Engineering* of the 30th December, 1910.

12-IN. 50-CALIBRE GUNS.

Muzzle velocity..	...	915 m. (3,000 ft.) per second.
Maximum pressure	...	3,150 kg/qcm. (20 tons).
Muzzle pressure	...	1,100 kg/qcm. (7 tons).

	<i>Wire-wound.</i>	<i>Built-up Solid.</i>
Droop of Muzzle...	4.45 min. (0.172 in.)	2.35 min. (0.092 in.)
Time of vibration	0.007633 sec.	0.006870 sec.
No. of vibrations } per second ... }	131.1	145.5.
Maximum upward velocity at muzzle on firing } sec.	3.66 m. (12 ft.) per sec.	2.13 m. (7 ft.) per sec.

[NOTE.—Further extracts quoted from Captain Jones' article have been omitted here.—ED.]

EROSION.

The question of erosion is at present more difficult and further from solution than ever, and, as previously intimated, stands in the closest relationship with the increase of calibre. The matter was thoroughly discussed in *Nauticus*, for 1908, in an article on "The Life of Modern Guns." Present-day propellants considerably limit the life of heavy calibre guns according to the stress, quality of the tube, and kind of powder used; in Great Britain 150 rounds are taken as the efficient life of a gun. The wear and tear at a normal rate of fire of 1—2 shots per minute is so great, that even after a few rounds, the initial velocity with the same charge noticeably decreases. The range decreases correspondingly, and involves inconveniences in the joint use of guns having different lengths of life. A knowledge of these facts and their causes may be taken for granted, and we shall only consider here the measures recently tried to combat erosion.

Generally speaking, preventive measures are taken on the one hand against destructive jets of flame, and on the other hand, against the high temperature of the gases.

In the United States, driving bands of the breadth of the calibre have been tried, it is said, with good results, with the object of improving tightness. In general, the guide is provided at the rear with a rim which, even with an eroded and widened chamber cone, *i.e.*, the part just in rear of the projectile when rammed home, gives the projectile almost the normal position. It is further stated that in the United States the duration of life of the 30.5 cm. (12-in.) gun has been increased from 150 to 200 rounds by a new form of rifling. This is apparently a question of grooves of three-cornered section, the so-called "hooked section grooves," the breadth of which decreases towards the muzzle to 1.8 mm. (.07-in.). All new guns of heavy and medium calibre are to have these grooves.

The placing of powdered graphite in the tube after each shot gives at any rate better gas-tightness. It is also thought

possible to lower the temperature of combustion by this means, because graphite, being a pure carbon, favours the formation of CO instead of CO_2 , and thus less heat is developed. Besides, this graphite dust coats the interior of the bore, thus preventing it from becoming soft, and it further fills up and prevents the spread of small cracks and flaws which quickly arise from firing. In addition, the graphite is said to act as a lubricant in lessening the friction in the bore, so that somewhat greater initial velocity is obtained, and the mechanical polishing of the lands of the rifling is lessened.

Excellent results have been obtained by the use of graphite powder with small guns and machine-guns, whereby the maintenance of accuracy is especially noticeable. At the United States gun factory at Springfield, a machine-gun fired 3,600 rounds during a test, without any damage whatever to the bore being apparent. The cartridges seemingly were rolled in graphite powder.

Powdered graphite is used by being blown into the bore after firing, or mixed with tallow and rubbed into the grooves of the driving bands.

The experiments with heavy guns have presumably not produced results of any great value.

POWDER AND TEMPERATURE OF COMBUSTION.

The temperature of the gas has by far the greatest effect on the wear and tear of the gun.

Nitro-Glycerine and Nitro-Cellulose Powder.

According to Wuich the computed temperatures of combustion of the powders and explosives mentioned below are as follows:—

Nitro-glycerine	... ..	3,150° C.
Nitro-glycerine powder composed of—		
35 per cent. nitro-glycerine	...	} ∞ 2,700° C.
50 „ nitro-cellulose	...	
3 to 5 per cent. vaseline	...	
8 to 10 „ baryta (barium) saltpetre	...	
Guncotton 13 per cent. N.	... ..	2,700° C.
Gelatinized gun-cotton powder	... ..	2,400° C.
Collodion cotton 12 per cent. N.	... ..	1,950° C.
Ammonia powder composed of—		
85 per cent. ammonium saltpetre	...	} ∞ 1,720° C.
15 „ cork charcoal	...	
Black powder	... ..	2,100° C.

The effect of this temperature on the tube is the greater, the longer it lasts, and the greater the quantity of gas in proportion to the interior surface of the bore. Consequently, the wear and tear is the more rapid the greater the calibre, the longer the tube, and the longer the duration of combustion, that is to say, the less explosive the powder. The greater

explosive force only affects the amount of the erosion in so far as the rapidity of the rush of gas over the bore increases with the explosive force.

The wear and tear is by no means indirectly dependent on the maximum pressure of gas; with the same force a high explosive powder with high pressure may cause less wear and tear to the tube than a less explosive powder with lower pressure, so long as both develop the same temperature.

As to the causes of the wearing out of the guns, different theories are advanced with more or less valid arguments. The supposition is plausible that the top layer of the interior surface of the bore, softened by the effect of the high temperature, loses a great deal of its rigidity, and is worn away by the current of gas, the more the latter is fouled by residue. Rusch compares the wearing action of the current of gas to that of a sand-jet.

It follows, therefore, that the most suitable powder is one that becomes gaseous as quickly and as completely as possible at low temperature, and therefore gives the least solid residue.

There is no considerable difference between the newer nitro-glycerine and nitro-cellulose powders as regards the calories and gases generated, *i.e.*, in efficiency. On the other hand, the nitro-cellulose powders are superior to many nitro-glycerine powders in being less injurious to the bore. Their comparatively small chemical and ballistic stability when stored under unfavourable conditions, their inequality in large quantities, and their strong tendency to backfire, are all against the use of nitro-cellulose powders on board. When completely gasified, both nitro-cellulose and nitro-glycerine powders have practically no solid residue or smoke. When firing, however, the combustion is always incomplete.

The formation of solid residue and the increase in smoke are further considerably contributed to by all those materials which are used in the manufacture of the cartridges, such as cartridge bags, hanks of silk, wood-pulp, cardboard, and, in still greater measure, the black powder priming charge, hitherto in general use (black powder yields about 55 per cent. solid matter).

Efforts to replace the black powder priming charge by completely volatilizing materials, such as denitrated imitation silk, have not up to the present been generally successful. However, there appears to have been found a reliable substitute for black powder suitable for ships' guns, in non-gelatinized, highly-nitrated wool, in the form of dust. Further, there are a number of chemical compounds, creating dirt and smoke, part of which cause more perfect combustion, and part are supposed to moderate the temperature. Among the former, barium nitrate is one of the principal oxygen-containers among nitro-glycerine powders, and is strongly inclined to the formation of solid residues and smoke.

The small stability of nitro-cellulose powder, mentioned above, is an undeniable fact. It is not always accounted for by

faults which can be avoided in the manufacture, and by great susceptibility to heat, because of the impossibility of adding, in large quantities, compounds which would give stability. In the nitro-glycerine powders, the nitro-glycerine, though not very stable in itself, is an excellent stabilizer in connection with other compounds. It is a fact that the navies which use pure nitro-cellulose powder have found it rather unsatisfactory as regards stability.

In the United States Navy a number of accidents have been attributed to the too great explosiveness of nitro-cellulose powder on account of its becoming dry. Such an explanation is possible. There does not appear to be any great certainty either, with regard to the ballistical stability of the powder; it is, therefore, frequently tested on board. The fact that only a few years ago, initial velocities and service charges had to be reduced for almost all guns, among others, even for the 30.5 cm. (12-in.) guns of the "Delaware" class, leads to the conclusion that the guns were not equal to the high muzzle pressure of the chemical powders manufactured.

Ballistically, the American nitro-cellulose powder appears to answer all requirements. A substance lately added to give stability to the powder is supposed at the same time to show the commencement of decomposition or drying up. Many people lay the blame for the accidents to guns in the American Navy solely to the form of the powder (multi-perforated powder). The rapid increase of burning surface and the mechanical breaking of the thin walls of the grains of powder after ignition, appear likely to produce dangerous pressures; firm thin sticks would be safer and better for high initial pressures.

Matters are worse in the French Navy, where spontaneous combustion has caused the loss of two battleships. Since 1898, the so-called A.M. Powders have been used in the French Navy, containing eight per cent. amyl-alcohol as a stabilizer. After 1907, a new variety of this smokeless powder—A.M.8—was introduced, which was said to be made more durable and stable by a special process. It has recently been stated that diphenylamine has been added to the powder, which, as a stabilizer, is far superior to amyl-alcohol. However, the first consignments of this powder were not delivered till September, 1911.

It may be gathered from the reports on the "Iéna" and "Liberté" disasters that:—

1. At various times during the summer the temperature in the magazines of the "Liberté" reached 30 to 34 degrees C. (86 to 93 degrees F.).
2. Old re-made powder was often put on board for practice purposes marked *à consommer en trois mois* (to be used within three months), which, however, often remained longer on board.

There was powder on the "Liberté" and other ships dating from 1899, worked up into 4.7 cm. (3-pdr.) cartridges; a consignment of powder for 6.5 cm. (2.6-in.) cartridges was known to be "absolutely defective." Discussion in the Chamber further revealed serious defects in manufacture. Prohibited methods of manufacture, especially the use of dirty cotton-waste, are said to have been employed in the Pont de Bois factory. Powder up to ten years old was used in the manufacture of new consignments. The director of this factory states that in reports to the Minister of War, he specially designated as bad and dangerous a consignment dated 1906, manufactured before he took up the appointment. The investigation showed that both the "Liberté's" 19 cm. (7.5-in.) magazines, placed one above the other, contained part of this consignment.

In view of these facts, it is impossible to attribute to nitro-cellulose powder in itself, the blame for the numerous accidents in the French Navy. Experience in the United States shows that it can be protected from decomposition, if it is manufactured with scrupulous care. It is now believed possible to effectually check the characteristic of nitro-cellulose powder to increase in explosive power through drying up—i.e., through the evaporation of the gelatinizing material—by delivering the powder better dried, and preserving it by keeping it airtight in cooled magazines. The powder is tested by weighing it; the loss of weight indicates the degree of dryness.

Q.F. AND B.L. CARTRIDGES.

For medium and light guns, cartridge cases are generally provided; unlike all other navies, the German and Austrian still adhere to it for heavy guns also. Costliness and great weight may be urged against the case, but it offers in return the great advantage of reliable obturation, and, further, absolute security against premature ignition by back-flash, and, in conjunction with airtight packing, isolates the powder in the best possible manner during storage.

BREECH-MECHANISM.

France.

The question of breech-mechanism is at present actively engaging the attention of the French Navy. Much fault is found with the present breech, which is described as very heavy, unwieldy and complicated. For opening or closing, two or three movements are necessary, which can often only be effected by mechanical means. The obturator leaves much to be desired, decreases the rate of fire and tends to erode. The breech frequently jams after firing; the plastic, or de Bange, obturator is apparently not used.

There are further serious complaints concerning the means of firing, which is probably not arranged for combined electrical and mechanical working.

The following cases of mis-fires and damage to breech-mechanisms have lately come to light:—

July, 1910.—Firing practice of the 1st Squadron: the breech-mechanism of two guns jammed on board the "Justice" after firing. An obturating ring was badly damaged.

February, 1911.—Firing practice of the 1st Squadron: a 30.5 cm. (12-in.) obturating disc was torn away in the "Patrie." Erosion in the tube up to 8 mm. (0.3-in.) in depth. At the very beginning of the practice on board the "République" and "Démocratie" mishaps of such a nature took place to the 30.5 cm. (12-in.) guns and breech-mechanisms, that firing could not be carried out. The breech-mechanism jammed.

December, 1910.—Ruelle gun factory: a 24 cm. (9.4-in.) gun M.1902/06 fitted with the new stepped (or Welin) breech screw burst on the fourth shot being fired. Breech destroyed. Cause not absolutely determined, probably due to the new breech being too weak. Only in November a similar gun burst.

February, 1911.—Ruelle gun factory: the bolt of the electrical firing arrangement broke in pieces on firing the sixth shot with a 30.5 cm. (12-in.) gun M.1900 R.1910 for the "Diderot."

A fundamental alteration of the system of breech closing seems to have been thought of for a long time. The introduction of Schneider's horizontal wedge-breech was considered, as well as one of French origin, which is neither wedge nor screw, probably the Canet disc breech, which had hitherto only been used for small semi-automatic guns. Finally, tests appear to have been made also with a breech-block with stepped screw, after the British model. It is now stated, however, that it has been decided to retain the French breech screw-mechanism with long breech screw for the 30.5 cm. (12-in.) guns of the new vessels of the "Jean Bart" class. The breech is said to be improved, especially in the direction of quicker manipulation.

For the 14 cm. (5.5-in.) Q.F. gun of this class, a light eccentric breech-screw is provided for cartridge cases. It is impossible to fire if the breech is not completely closed, as the striker is not in the firing position if the breech movement is not completed.

United States.

All 7.6 cm. (3-in.), 10.2 cm. (4-in.), 12.7 cm. (5-in.), and 15 cm. (5.9-in.) Q.F. guns in the United States Navy have a similar arrangement, except that the striker here lies eccentrically in the breech-mechanism.

A longitudinal breech-mechanism with carrier is used for heavy guns, with a cylindrical (Welin) breech screw. The threads are graduated over three-quarters of the circumference. It is worked entirely by hand for guns up to the 30.5 cm. (12-in.)

A new kind of safety lock of the Bethlehem Steel Co. will probably be introduced. It allows the tube to be inserted with the breech open without danger of premature ignition. (See Diagram A.)

Great Britain.

[NOTE.—A brief description follows of the breech-mechanisms of various British firms—Vickers, Coventry Ordnance Co., etc. It has been omitted here.—ED.]

TURRET CONSTRUCTION.

The improved turret arrangement described in *Nauticus*, for 1910, is in general use to-day. The guns are placed with the trunnions as close as possible to the front turret wall, which has a backward slope, and embrasures as small as possible. The whole revolving system is balanced, *i.e.*, the centre of gravity is situated in the pivot axis, so that when a ship has a list, no lifting work has to be done by the training motor, but only increased friction has to be overcome. With this object the turn-table is made to project in the rear over the barrette. The hood of the turret frequently rises towards the rear, so that the rear plates are higher than the front plates. The projection of the turret is in some cases in Great Britain lengthened downwards, and the space thus formed is used for keeping projectiles in readiness.

The ammunition supply, separate for projectiles and charges, is broken at the working chamber. The upper hoist is generally led round the trunnions. In this case a bracket on the mounting carries the machine-worked rammer, so that loading can take place at any angle. With other arrangements the ammunition is swung to the rear of the breech, which has to be brought to the loading position. The rammer can then be firmly mounted on the deck of the turret or served by hand.

Electric power has recently been more extensively used in turrets than formerly, and has partly ousted hydraulic power. Hydraulic power is just as efficient as electric with regard to the control of elevating and training gear. It has the merit of greater simplicity, which gives it many advantages in actual use. The advantages of electric power are as follows: the sources of electric power are already on board, and can be used for other purposes also; the fact of being able to switch on to any dynamo at will, constitutes a great reserve of power; the conductors in the ship are considerably simpler and more easily

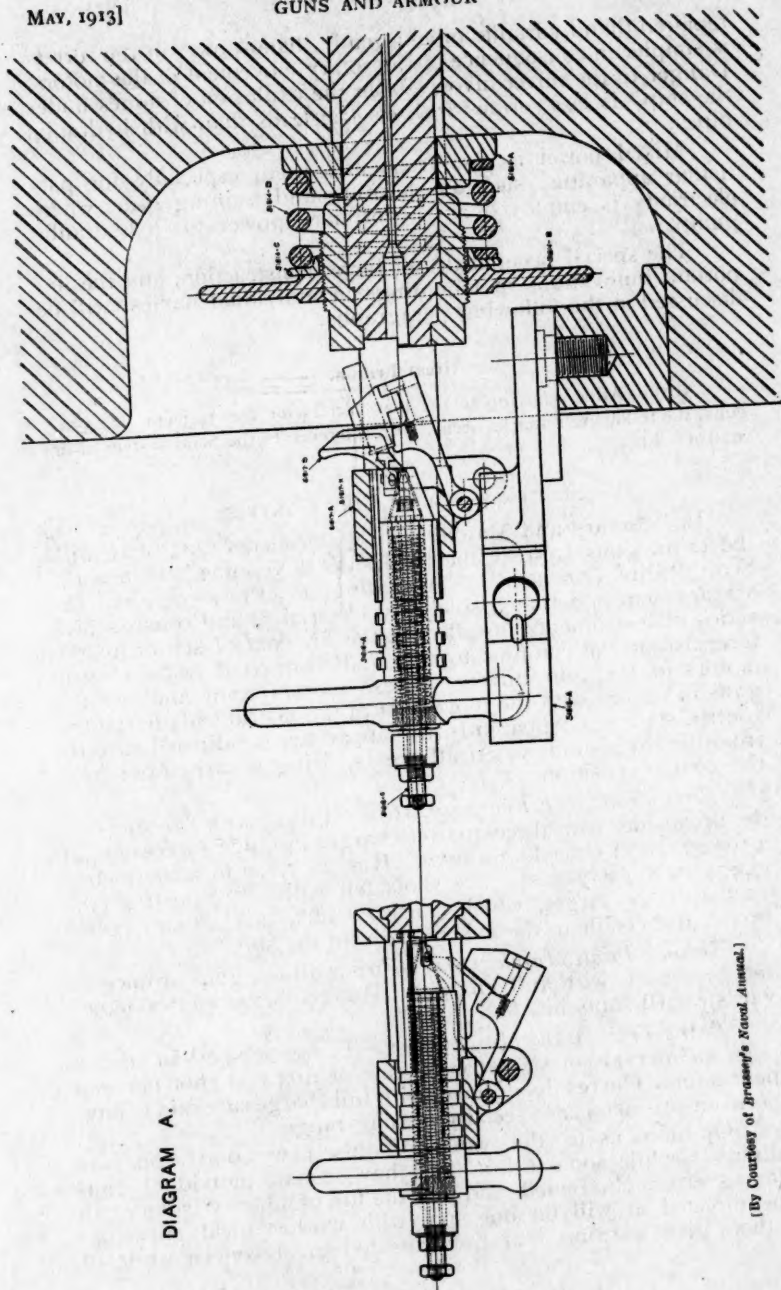


DIAGRAM A.

[By Courtesy of Brassey's Naval Annual.]

repaired than hydraulic pipes; finally, hand-power in the turrets is simpler in consequence of the rotary movement of the motors. Danger to the turret pivots—from the explosion of mines under the ship—is less serious with electric leads than with hydraulic pipes.

Mixed power is also frequently used, especially for particular apparatus, such as elevating and training gear, where electricity is employed as the primary power for a hydraulic pump.

The special peculiarities of turret construction, and the important innovations in mountings in individual navies, will be discussed in the following paragraphs.

Great Britain.

[NOTE.—After referring to the new turrets for the 34.3 cm. (13.5-in.) guns, the following remarks occur, with reference to the Scott system of fire control.—ED.]

SCOTT SYSTEM OF FIRE CONTROL.

In February and March, 1911, experiments took place with the 12-in. guns L/50 of the battleship "Neptune," to test the Scott "Fire Director." According to Press reports, the arrangement is actuated solely by electricity, and consists of a series of instruments installed in the fire-control station of the foremast or the conning tower, and connected with electric motors in the gun turrets. These motors train and lay the guns in unison with the movement of the instruments in the fire control station. Apparently the apparatus is adjusted directly from the range-finder. At all events, firing is carried out from the control position.

First Trial, 18th February, 1911.—Firing with five guns on the broadside, with three-quarter charges in quick succession, at a towed target (speed 13 knots). Range, 7,200 to 8,200 metres (7,874 to 8,968 yards). All shots fell within 137 metres (150 yards) of the target, which consisted of a staff 10 cm. (4-in.) broad, not visible to the naked eye from the ship.

Second Trial, March, 1911.—Firing all ten guns at once on the broadside with full charges. Range, 8,200 metres (8,968 yards). All shots hit.

Third Trial, 10th March, 1911.—Firing 36 shots in succession, at intervals of six seconds; rate of fire, one shot per gun per minute. The results of firing with full charges are said to have been unsatisfactory, especially at long ranges.

Opinions as to the value of this new contrivance are divided; while some think that they see all individual gunlayers' errors eliminated, and that the fire of a heavy battery can be directed at will on one spot with mathematical precision, others give warning that it means too great concentration of

work depending on an extremely delicate and easily damaged apparatus. The desired exactitude of training and elevation amounts to an angle of about two minutes, to which such heavy weights as a 30.5 cm. (12-in.) turret of 500 tons have to be adjusted. Besides, there is the frailty of the apparatus and conductors outside the turrets, so that it seems questionable whether such an arrangement will retain the necessary accuracy under its own concussion and hostile fire.

[NOTE.—A description follows of the Armstrong-Whitworth electric-hydro apparatus for adjusting sights from a central controlling station. It has been omitted here.—ED.]

United States.

[NOTE.—Descriptions are given of the 30.5 cm. (12-in.) gun turret of the "Michigan" class, and of the sights in use in the American Navy; also an account of experiments made in the Atlantic Fleet of passing ammunition by hand. The extracts are from *Ordnance and Gunnery*, and have been omitted here.—ED.]

The battleships "Oklahoma" and "Nevada," voted in 1911, are to have an armament of ten 35.6 cm. (14-in.) guns in two triple and two double turrets. From the experiments carried out against the "San Marcos," it is thought necessary to strengthen considerably the turret armour. The triple turrets are to have face-plates 457 mm. (17.7-in.) thick, and the double turrets 406 mm. (15.8-in.) thick.

Besides the constructive reasons mentioned at the beginning it was decided to adopt the triple turret, because it was held that shots from one turret firing salvos would fall better together than if fired from different turrets, and that the triple turret affords more favourable conditions for spotting; the battery can thus be brought more quickly on to the target. It is considered absolutely necessary for turret salvo firing to couple the three guns, since with independent laying the guns in a turret suffer from mutual fire-disturbance. The guns of the 30.5 cm. (12-in.) turrets of the "Arkansas" and "Wyoming" are said to be already coupled in this manner. Possible errors in the guns arising from installation or calibration, can be rectified by a correcting device.

[NOTE.—A description follows of an anti-frictional trunnion device, taken from *Ordnance and Gunnery*.—ED.]

France.

TURRET CONSTRUCTION.—Up to the present the French Navy has used a special kind of turret construction, which differs widely from the turn-table mountings in general use—the turret mountings proper. In place of barbette armour, there is only an armoured shaft of rather small diameter, above which the high enclosed turret armour protrudes on all sides. The

passage is protected by a small projection of the turret armour. The weight of the revolving turret does not rest on roller bearings as with the turn-table mountings, but is borne by the revolving ammunition shaft within the armoured shaft. By means of a hydraulic cushion, the whole turret is somewhat raised when in use, and when in the securing position it rests upon a gudgeon bearing above in the armoured shaft. A roller bearing in the top part of the shaft only serves for lateral movement and reception of recoil. The revolving shaft must consequently be very strongly built, because with the great diameter of the revolving turret, the weight of the movable mass is greater than in the case of barbette turrets. However, the armoured shaft is certainly lighter than the barbette, so that the total weight of the turret is not greater. A sketch¹ is appended showing a turret of this kind for a gun of medium calibre. From this it can be seen that there is a second training pivot in the turret, such as is sometimes installed for very fine training. The carriage is not rigidly mounted on the bottom of the turret, but is arranged like a sort of central pivot mounting movable within the limits of the embrasure of the turret.

This turret has been given up in the ships of the "Jean Bart" class, and it has been decided to adopt the roomy barbette turrets of British pattern with working chamber. The following advantages are advanced for this construction as compared with the French:—

1. The movable part of the turret offers a smaller target surface.
2. All electric motors are behind armour (barbette) and protected from concussion from chance projectiles.
3. The ammunition supply, loading and elevating, are worked exclusively by mechanical means.
4. The gun turret (*i.e.*, the barbette) is very roomy, so that the hand-training gear can be accommodated in it.
5. The rate of fire is one shot in 25 seconds. Many complaints were made of the slow rate of fire with the older turret constructions.
6. The crew can be much reduced in numbers as compared with that of the turret of the "Danton" class.

In addition to the above-mentioned faults in breech-mechanism, considerable damage has occurred to French gun matériel during the last few years. The French Press is unanimous in stating that during the 1910 and 1911 firing practices of the First Squadron, the elevating gear of nearly all the 30.5 cm. (12-in.) guns of the "Patrie" and "Démocratie" classes was so badly damaged, that the guns were jammed. In 1911, turret salvos with full charges were fired with great elevation for the first time. The elevating gear of the 19.4 cm.

¹ Omitted here.—Ed.

(7.6-in.) guns of the "Justice" was also damaged. The sighting apparatus in general, but especially that of the 24 cm. (9.4-in.) guns of the "Danton" class was described as so complicated and weak, that after the first few shots it became out of action. The carrying out of alterations known to be necessary is continually delayed. On firing, the 24 cm. (9.4-in.) guns of the "Danton" class proved to be too weak in construction. After two guns of this type had burst on the Ruelle proving ground, it was seen to be necessary to reduce the pressure from 3,000 to 2,600 atm.; and to reduce the initial velocity, according to some accounts, by 100 m. (328 ft.), and to others, more credible, by 35 m. (115 ft.).

PROJECTILES.

The development of the projectile has advanced along the lines indicated in *Nauticus*, for 1910. Capped armour-piercing shell, with high explosive charge of $2\frac{1}{2}$ —4 per cent. of the total weight of the projectile, is the foremost projectile for heavy guns. Fired from 30.5 cm. guns it is effective up to over 8,000 m. (8,749 yards) against 12-in. armour (see *Nauticus*, for 1911, page 209). The delay action fuse, necessary against armour, impairs the effect of a projectile striking an object of small resisting power; in some cases the detonation occurs at too great a distance behind the target. With the exception of the United States, there has never been any intention of abandoning the high explosive shell with some eight per cent. weight of burster and instantaneous detonation, so long as the armour-piercing shell does not guarantee sufficient explosive effect at all fighting ranges. The very poor result of the "Puritan" experiments in America, when some 90 kgs. (198 lbs.) of explosive gelatine could not produce any effect worth mentioning when exploded in direct contact with armour 200 mm. (7.9-in.) thick, shows that no great hopes can be entertained as to the effect against armour, of a thin-walled 12-in. armour-piercing shell detonating on impact with about 30 kg. (66 lbs.) of a less powerful explosive.

If the projectile detonates, there still remain the great pressure of gas and the splinters, which find their way through all openings in the armour. High explosive shell can only be regarded as a makeshift for heavy guns; the standard projectile desirable is the armour-piercing shell, which penetrates armour of equal thickness to its own calibre, at all possible fighting ranges, and detonates in the target. At present, as above-mentioned, the use of such standard projectiles appears to be reserved for guns of 35 cm. (13.8-in.) calibre and upwards.

With regard to ballistics, without doubt the most noteworthy advance is the introduction of the sharp pointed projectile, with a radius of curvature of from four to eight calibres, instead of two, as heretofore. The decrease in resistance attained due to the shape is very important, and the gain in

flatness of trajectory, range, striking velocity and penetration, is proportionate.

The following data of the American 30.5 cm. (12-in.) L/50 M.VII. and the 35.6 cm. (14-in.) L/45, the former, with the old type of projectile with short point, and the latter, with pointed projectile, give an approximate idea of the advantage obtained. The table is incomplete, and, of course, does not give a clear idea, as the heavier calibre in itself loses less in velocity; but it shows the absolute ballistical advantage of the heavier calibre when employing the sharp pointed projectile.

RANGE IN METRES.

[British measures in brackets.]

GUN.	M. Yds.	O.	2750 (3007)	5500 (6015)	6400 (7000)	8250 (9022)	10050 (10990)
30.5 cm. (12 in.) L/50 M. VII.—							
Weight of projectile (394 kg.—869 lbs)							
Striking Velocity ...	900 (2953 ft.)	759 (2490 ft.)	632 (2074 ft.)	—	524.5 (1721 ft.)	—	—
Average loss per 100 metres ...	—	5.15 (16.9 ft.)	4.88 (16 ft.)	—	4.55 (14.9)	—	—
Striking energy m. tons ...	16270 (62504)	11550 (37273)	8030 (25913)	—	5520 (17813)	—	—
Striking energy ft. tons ...	—	—	—	—	—	—	—
35.6 cm. (14 in.) L/45—							
Weight of projectile 635 kg.—1400 lbs. long point.							
Striking Velocity ...	792 (2598 ft.)	—	—	618 (2028 ft.)	575 (1887 ft.)	536 (1759 ft.)	—
Average loss per 100 m. ...	—	—	—	2.72 (8.9 ft.)	2.65 (8.6 ft.)	2.54 (8.3 ft.)	—
Striking energy m. tons ...	20390 (65510)	—	—	12350 (39.855)	10700 (34.330)	9290 (29920)	—
Striking energy ft. tons ...	—	—	—	—	—	—	—

With one and the same calibre the loss in velocity is said to be about 35—40 per cent. less in the case of the sharp pointed projectile. The advantage is very great with very high initial velocities.

Since as regards actual penetration, the hitherto usual form of core of the shell with a radius of curvature of $2-2\frac{1}{2}$ calibres and a broad blunt cap gives the best results, the lengthening of the point is generally obtained by putting on a second hollow cap, which only lessens the resistance of the air, and does not affect the projectile on impact. Another arrangement ignores the disadvantage of somewhat less penetrating power, and shows only one pointed cap with walls of greater thickness. The fastening of the cap in this case is considerably simpler, and the disadvantage of somewhat less relative power of penetration is of no importance as compared with the great gain in striking velocity. The fastening of the cap is noteworthy.

All the great navies are at present engaged in altering their projectiles to sharp pointed. Of the great Powers, the United

States have certainly made the most advance in this respect, and two years ago were using them even for practice. The British Navy uses pointed caps of 4—8 calibres ogival radius. For the older projectiles, caps are made, which are sometimes fitted on only at the gun.

Although the introduction of the pointed projectile has increased the effect very considerably, yet, generally speaking, it has not been able to prevent the transition to heavier calibres. In addition to this, a slight increase in the relative weight of projectiles is to be noticed in guns of more than 30.5 cm. (13-in.) calibre, with a view to greater penetration and explosive effect.

A new projectile, similar to the *Obus P*, has been tried in France. It was fired from a 32 cm. (12.6-in.) gun with low initial velocity, corresponding to the striking velocity at 6,000 metres (6,562 yards), and is fitted, according to Press reports, with a fuse which can be adjusted either to operate after perforating thick armour, or to take effect on penetrating thin plating. Exact details as to this arrangement are not available.

TRAJECTORY INDICATORS.

Of late, projectiles have often been fitted with an arrangement to make the trajectory visible in the daytime by means of smoke, and at night by a light. The composition in the base of the projectile is ignited by the charge on firing. It is said to enable the flight of the shell to be followed up to 10,000 metres (10,936 yards), and to considerably facilitate spotting when several ships are firing at one target.

ARMOUR.

The development in armour has not kept pace with the increase in the power of guns. An improvement in the manufacture of hardened armour makes it possible to increase the size of each plate, thus increasing in general the protection afforded. While, for example, the belts in most foreign ships formerly consisted of two layers of plates one above the other, thus having a joint about half way, it is now possible even with the increased extent of the belt, to construct it with seamless plates from top to bottom.

The advantage of strengthening the plates decreases above 300—400 mm. (11.8-in.—15.7-in.) as the hardening process only extends to a certain depth, and the remainder of the plate is soft.

The British Simpson process attempts to correct this drawback by welding together two or more plates, thus producing various hard layers in the plates, so that increased resistance is offered to the projectile. The welding is done with copper, which makes a perfect union with steel, giving extraordinary toughness to the weld, greater than that of homogeneous steel.

The British Admiralty has ordered further trials to be made with Simpson plates, although at first the inventor's expectations are said to have been not fully realized, and in spite of some opposition to the invention from the trade, arising apparently from economic reasons. Further results appear to have been so satisfactory that the battle-cruiser "Lion" is said to have its conning tower made of Simpson armour.

Vanadium Steel Plates.

For some time the Bethlehem Steel Company has been making thinner plates of Vanadium steel, which are an improvement on the American hardened steel plates of similar thickness hitherto in use, and which are said to be especially suitable for turret hoods, splinter and torpedo bulkheads, and as deck armour. The difference in price, however, appears to be considerable; on this account, therefore, the use of Vanadium steel to the extent intended had to be given up in the battleships "Oklahoma" and "Nevada."

A disadvantage of the armour is that even after a few months, flaking is noticeable, being caused by the rapid hardening. An invention is now being tested at the Naval Proving Ground at Indian Head, which is expected to bring about a complete alteration in armour. The invention consists of an "armour skin," or layer of armour, 25 mm. (1-in.) thick, placed at a short distance from the armour proper. Ten years ago this device was already spoken of as the "decapping device." The idea was to decap the projectile before it came in contact with the hard top surface of the plate proper. The object of the armour-skin now is to cause premature detonation.

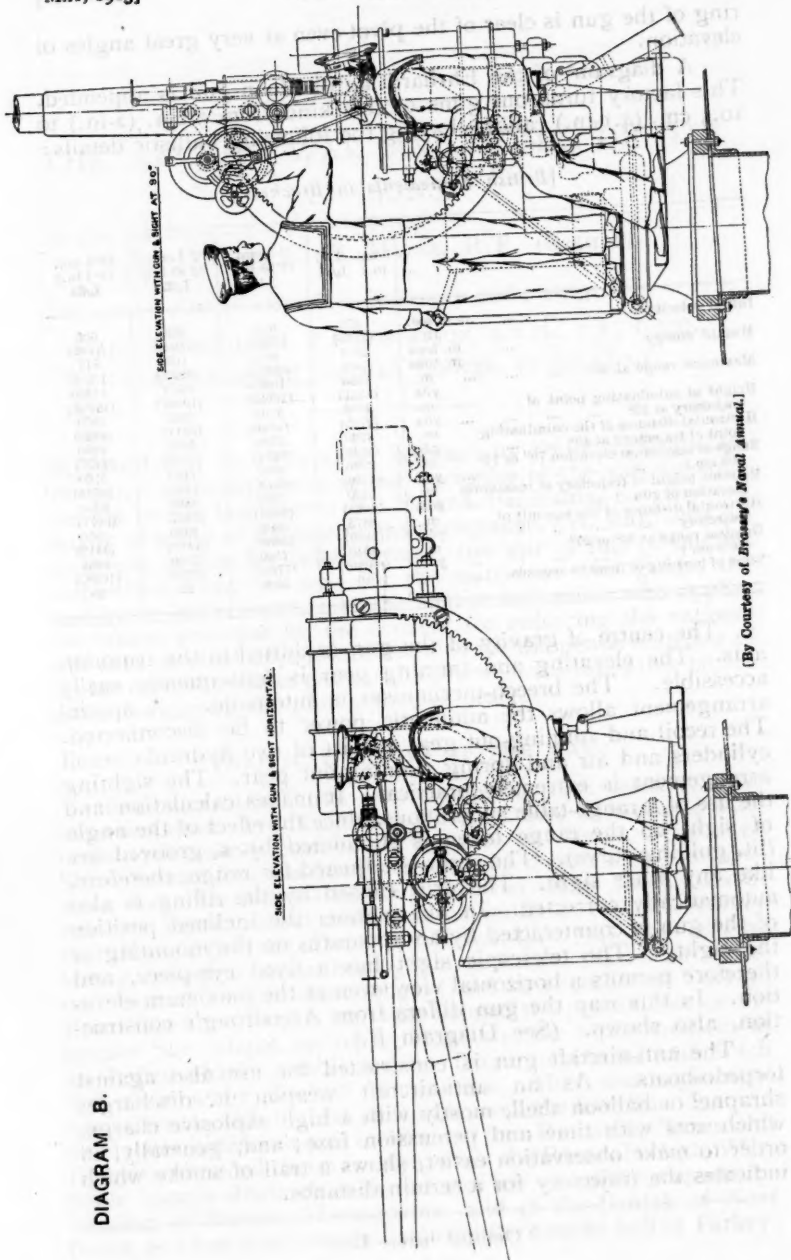
In conclusion, two kinds of guns may be mentioned, which, on account of the peculiar nature of their installation and object, make a special construction of individual parts necessary—these are the submarine boat gun and the anti-aircraft gun.

SUBMARINE BOAT GUNS.

It is known that the later British submarines of D class and those of E class are fitted with two 7.6 cm. (3-in.) Q.F. guns on a disappearing mounting. Details of the construction of the guns are not available. The mounting is worked by hydraulic power.

ANTI-AIRCRAFT GUNS.

Anti-aircraft guns are installed in the latest ships of nearly all navies. Where they do not yet exist, their introduction is expected. The gun has a small calibre of about 10.2 cm. (4-in.), and, generally, an automatic breech-mechanism. Its mounting must allow of very high-angle fire. In order to obtain this, the trunnion boxes are placed behind the pivot axis. There is a Y-shaped bracket for the cradle, so that the breech



[By Courtesy of Brassey's Naval Annual.]

ring of the gun is clear of the pivot even at very great angles of elevation.

A diagram¹ of the Ehrhardt anti-balloon gun is appended. This factory turns out guns of this kind from 5 cm. (2-in.) to 10.5 cm. (4.1-in.) calibre, having the following ballistic details:

[British Equivalents in Brackets.]

	5 cm. (1.97 in.) L/30	6.5 cm. (2.56 in.) L/35	7.5 cm. (2.95 in.) L/32	10.5 cm. (4.1 in.) L/35
Initial velocity ... m/sec.	450	670	550 ¹	605
ft.	(1476)	(2198)	(1804)	(1985)
Muzzle energy ... m. tons	24.8	93.8	100	317
ft. tons	(80)	(302.8)	(322.7)	(102.3)
Maximum range at 45° ... m.	7800	10000	9750	11880
yds.	(8531)	(10936)	(10663)	(12992)
Height of culminating point of trajectory at 45° ... m.	2480	3700	3210	3950
yds.	(2712)	(4046)	(3511)	(4320)
Horizontal distance of the culminating point of trajectory at 45° ... m.	4260	5700	5580	6800
yds.	(4659)	(6234)	(6102)	(7437)
Range at maximum elevation 70° or 75° (6.5 cm.) ... m.	3800	5800	7160	8700
yds.	(4158)	(6343)	(7830)	(9515)
Extreme height of trajectory at maximum elevation of gun ... m.	3720	7900	6800	8300
yds.	(4068)	(8640)	(7437)	(9077)
Horizontal distance of the summit of trajectory ... m.	2075	3300	4060	4950
yds.	(2269)	(3609)	(4440)	(5413)
Greatest range at 20° or 25° (10.5 cm.) ... m.	5540	7100	7150	9685
yds.	(6059)	(7765)	(7820)	(10592)
Time of burning of fuses in seconds ...	16	20.6	22	25

The centre of gravity of the gun is shifted to the trunnion axis. The elevating and training gear is consequently easily accessible. The breech-mechanism is automatic. A special arrangement allows the automatic power to be disconnected. The recoil and running-out gear consist of two hydraulic recoil cylinders and air and spring running-out gear. The sighting arrangement is extremely practical. It makes calculation and the use of a range-table superfluous, since the effect of the angle of sight on the range taken is eliminated by a grooved arc (lit. guiding curve). The sight is adjusted for range, therefore, like any other sight. The drift caused by the rifling is also automatically corrected. In like manner the inclined position of the gun is counteracted by an apparatus on the mounting or the sight. The telescopic sight has a fixed eye-piece, and therefore permits a horizontal view even at the maximum elevation. In this way the gun differs from Armstrong's construction, also shown. (See Diagram B.)

The anti-aircraft gun is constructed for use also against torpedo-boats. As an anti-aircraft weapon it discharges shrapnel or balloon shell, mostly with a high explosive charge, which acts with time and percussion fuse; and, generally, in order to make observation easier, shows a trail of smoke which indicates the trajectory for a certain distance.

¹ Omitted here.—Ed.

THE BALKAN WAR AND SOME OF ITS LESSONS.

By COLONEL C. B. MAYNE, R.E. (Retired).

On Wednesday, February 26th, 1913.

MAJOR-GENERAL W. R. ROBERTSON, C.V.O., C.B., D.S.O.,
Commandant of the Staff College, in the Chair.

ALTHOUGH we do not yet possess any really authentic information concerning the actual strengths of the various combatants in the late war in the Balkan Peninsula, nor any full details of many of the operations undertaken, yet, with what we do know, or can logically surmise, the war is full of interest and information, not only for the statesman who guides the destiny of his country, and the soldier and sailor who applies the means provided by the country for enforcing the national will over external opposition, but also for the gentle taxpayer of the country who has to pay for the effects of the tunes that he has called for during the piping time of peace.

POLITICAL CAUSES OF THE WAR.

Ever since the Turks overran, in the 14th century, what was once known as "Turkey in Europe," and were turned back in the 17th century from before the walls of Vienna, Oriental or Slav Christendom has been stirred to its depths over the treatment that their fellow-Christians received under Mohammedan mis-rule, but it was not until after the middle of the 18th century that Russia (by the Treaty of Kainardji, 1774) had become strong enough to assert her right to protect the Greek or orthodox form of the Christian religion and its churches in Turkey. From that time Russia has also claimed the protectorate of the smaller Slav States, including Rumania, the representatives of an Italian colony established by Trajan in Dacia, and which had come under Turkish domination. After many years of war, Greece, with the aid of Russia, was the first Slav State to obtain her independence, in 1829. Then Rumania, Servia and Bulgaria obtained theirs in 1878, after the Russo-Turkish War, while Austria obtained, as the price of her neutrality, the administration of Bosnia, Herzegovina, and of the Sanjak of Novi Bazar, as a first step towards acquiring the western half of Turkey.

Though Rumania had been forced to allow the passage of Russian troops across her territory, and had practically saved Russia from disaster in 1877-78, the price she had to pay for her independence was to give up to Russia the province of Bessarabia in exchange for the Dobrudscha! The result of this unpolitic action of Russia was to throw Rumania into the arms of Austria and Germany, especially as her ruler is a Hohenzollern prince, and she has ever since then looked to getting an increase of territory when Turkey was partitioned. This largely explains the attitude of Rumania during the war. There is also a large Wallachian colony in Albania, which has always roused a strong Rumanian interest in that province.

In 1879 Germany and Austria formed a Dual Alliance for promoting a pan-Teutonic ideal in opposition to the growing pan-Slavonic ideal being fostered by Russia, and Germany adopted the attitude of being the friend of the Sultan Abdul Hamid, and entered into close financial dealings with him, in return, of course, for still more valuable concessions. Italy, who had strong commercial interests in Albania, was alarmed, and the acquisition by France (at the suggestion of Germany) in 1881, of Tunis, which the Italians had always looked on as their own, drove Italy to join the Dual Alliance, as a means of ensuring national security and aspiration. This was just what Germany wanted, and the Triple Alliance, formed in 1881, has since been periodically renewed, the last date of renewal being 1912. In 1885, Prince Alexander of Bulgaria annexed Rumelia, apparently against Russia's wish (who did not approve of strong States independent of herself), but as Great Britain approved, the union was maintained, but under Turkish suzerainty. This expansion of Bulgaria irritated Servia, who, at Russia's instigation, declared war in 1885, and was decisively beaten in the first fight. Austria then put a stop to the war. Prince Alexander was soon after kidnapped by Russian agents and taken to Russia, where the Tsar ordered his release; but, soon after, he resigned when he found that Russia was not friendly to him, and he was succeeded by Prince Ferdinand of Saxe-Coburg; the latter, however, was only recognized in 1896 by the Tsar, on the death of Stambuloff, the Bulgarian Minister, who till then had guided an independent Bulgarian policy.

In 1897 the Cretans demanded union with Greece, who so supported them that Turkey declared war, overran Thessaly, and easily routed the Greek Army. Further progress of the Turkish Army was checked by European intervention, and a treaty of peace restored Thessaly to Greece and Crete to Turkey, but under a condition of European supervision.

In the meantime, massacres of Christians had occurred at intervals in many parts of the Turkish Empire, but nothing was done, as the Turks always insisted that these massacres were deliberately worked by paid agitators in order to secure European intervention, and the Powers were disunited as to the

intentions of Russia and Austria concerning Turkey. All Western Europe did not wish to see another naval opponent in the Mediterranean, and British statesmen, at that time, had the impression that our hold over our Mohammedan subjects depended largely on our upholding the possession of Constantinople by the Turkish Sultan, who is, or was, looked upon by all Mohammedans as the Head and Symbol of their religious aspirations. But this repeated upholding of the Turkish rule in Europe has always been accompanied by demands for reforms for the betterment of the condition of the Christian subjects of the Turks, though these oft-repeated pledges have never been fulfilled. Consequently, year by year, the storm has gathered over Turkey. The matter was complicated by religious differences among the Christians; for the Bulgarians had obtained a religious Head (an Exarch) for their Church, freeing it from the control of the Patriarch or religious Head of the Greek Church in Turkey, and the Patriarch had excommunicated the Bulgarian Christians as heretics, though on every other matter their religious beliefs and practices were identical.

In 1899 the "Macedonian Committee" in Bulgaria appealed to the Powers to create an autonomous Macedonia under a Bulgarian Governor-General, and soon after Bulgarian, Servian, and Greek bands crossed the frontier and harassed the Turks, who replied in kind. Russia and Austria presented a scheme of reform to Turkey in 1903, which was accepted, but which utterly failed to do any good, as no coercive powers were given to the executive. Russia soon after was rent internally for some years by severe social and revolutionary movements, and in 1904-5 a disastrous war with Japan materially weakened her financially and in prestige.

Meanwhile, in European Turkey, matters had so gone from bad to worse, as to bring about the rise of the Young Turk Party of "Union and Progress," who had for some years previously been preaching reform while in exile in London and Paris. This party had also secretly worked with success at spreading their reform propaganda in the Army, which, up to 1908, was organized and administered by the Sultan Abdul Hamid, as a means of oppression. In July, 1908, the leaders of the Young Turks demanded a constitutional Government. A threat to march with the Army on Constantinople made the Sultan yield in a panic, amid the rejoicings of his Mohammedan and Christian subjects, and a Parliament met in August. But in October, 1908, Ferdinand of Bulgaria declared his complete independence of Turkey, and this was followed up by Austria declaring the annexation of Bosnia and Herzegovina. Though she withdrew her troops from the Sanjak of Novi Bazar, Austria retained the right to construct a line through it to connect her railway system with the railway from Mitrovitz to Salonica. The Young Turkish Party, already split up by serious divisions, was furious, but had to

accept the inevitable, and their continued system of centralization of government at Constantinople irritated the provinces. In 1909 a counter-revolution broke out, which was repressed by the Young Turks with the aid of the troops (under Mahmud Shefket Pacha) who had remained loyal to them, and the Sultan, Abdul Hamid, was deposed in favour of his brother, who accepted the position of a constitutional ruler.

The absorption by Austria of the Slav States of Bosnia and Herzegovina roused the fierce anger of the other Slav States, who saw their pan-Slavonic dreams being shattered, and war with Russia (who had not even yet recovered from the war with Japan) was only averted by the openly-expressed threat of Germany to side with Austria. Russia had to give in, and the Slavs fully realized Austria's ultimate aim of securing the port of Salonica and Western Turkey for herself; Servia was specially furious, as she saw her dream being destroyed of acquiring on the Adriatic a free sea-port for her trade and commerce, which are now so dependent on Austrian good-will; Montenegro, feeling herself also threatened with absorption into Austria, threw herself on Russia, and has since, in 1910, declared her independence.

To try and win over the Slav States from Russia, Austria has proposed the formation of a customs union with the Balkan States, but Russia successfully countered this by again rousing the Slav movement with the cry of freedom for the Slav Christians from Turkish misrule, to be combined either with a territorial aggrandizement of the different Slav States, or with the creation of new autonomous States in Thrace, Macedonia, Old Servia, and Albania. Russia skilfully bridged over the differences between the Slav States, and on the 20th February, 1912, when all the Heirs-Apparent of Servia, Greece, and Montenegro were at Sofia during the festivities of the coming-of-age of the Heir-Apparent of Bulgaria, a military agreement was drawn up between the four Slav States, and the partition of Turkey was agreed upon. Up to the 10th September no European Power (except Russia) had, it is believed, any knowledge of the existence of this Balkan League, and it was even then considered doubtful, until the 10th October, when Servian troops were allowed to concentrate by rail at Kustendil on Bulgarian territory.

But previous to the formation of this Balkan League, the welter of conflicting interests in European Turkey was brought to a head in 1911 by the seizure of Tripoli by Italy, which involved a desultory war with Turkey. The Turkish fleet was kept locked up in the Black Sea by the superior Italian fleet, and a number of Turkish islands in the Aegean Sea were occupied. This was a tremendous blow to the Young Turk Party, who could not do anything effective, as Tripoli was so far away and only accessible by desert communications. This brought about serious internal troubles in Turkey. It was also the

opportunity for the pan-Slavonic movement to be put into operation, especially as Turkey could not, owing to the presence of the Italian Navy in the Aegean Sea, send troops and supplies from Asia Minor and Constantinople to Salonica and other ports. Again, as Turkey had just begun certain Army reforms, it was essential to act before these could prove effective.

Revolts had sprung up in Albania against the tyranny of the Young Turks, and in consequence of this a large number of Turkish troops were drawn into Old Servia and the Sanjak of Novi Bazar. But as other and greater troubles were brewing, the Albanians were granted large administrative reforms in August, 1912.

Meanwhile, frontier fighting took place with Montenegro and Bulgaria over alleged massacres of Christians, and violent demands were made for the Macedonians (mostly Christians) to be given the same concessions as had been given to the Albanians (mostly Mohammedans). The difficulty was, for the moment, bridged over by the Turkish Government promising to investigate the massacres and to punish the instigators. The Turkish Government was now troubled with a mutinous spirit that had been spreading among many of the *Redif* (reserve) battalions, who had been kept for a much longer time with the Colours than the law laid down, and had been marched and countermarched here and there seemingly to no purpose. Consequently, late in August and early in September (that is, after the Albanian trouble was over), a large number of *Redif* battalions were disbanded, resulting in about 150,000 men being sent to their homes, and Turkey, relying on the animosities of Russia and Austria, felt certain that the Powers would not allow the small Balkan States to endanger the peace of Europe.

Throughout September, 1912, petty combats were taking place along the frontiers of Montenegro and Bulgaria; the Turks always protested that these were due to Slav instigation and were purposely organized. As Bulgaria had collected 45,000 men at Shumla for "autumn manœuvres," a proposal was made to hold large Army manœuvres with some 200,000 Turkish troops around Adrianople. As this would have resulted in the early mobilization of a large Turkish Army, the proposal met with a strong protest from Bulgaria as being a threat of war, and the Powers persuaded Turkey to cancel the manœuvres; but the prospect of them had given an excuse for the smaller Balkan States to begin warlike preparations during the last week in September. Russia and Austria warned the States that they would get no support if they broke the peace, but the warning had no effect, and in consequence Turkey stopped at Salonica 91 cars of ammunition for Servia. On the 30th September orders were issued for the mobilization of the Bulgarian, Servian, Montenegrin, and Greek Armies, and of the Greek fleet, and the Servian Government seized some Turkish war material that was on its way to Turkey. In reply

to these measures the mobilization of the Turkish Army was ordered on the 1st October, and 150 Greek ships in Turkish ports were detained on the plea that they might be used for troop transports. But as the Turkish Army was scattered over such a vast area, and had just been partly demobilized and sent home, and was also partly employed in repressing disturbances, there was no doubt that the forces of the Balkan States would be ready to move long before the Turkish forces could act effectively. Public opinion on both sides was for war and no concessions, and a number of Turkish troops were moved from the west to Thrace to defend Constantinople. On the 2nd October the Bulgarian Government suspended all railway traffic beyond Sofia into Turkey, probably taking care to secure the greater part of the rolling stock on the line, as the Boers did in September, 1899. On the 3rd October the four Balkan States agreed to present a collective note to Turkey, calling on her to guarantee autonomy or home rule to Old Servia, Macedonia, Albania and Crete; if no reply was given in six days, war was to be declared. Up to this time the attitude of Rumania had been uncertain, but Bulgarian confidence was established by the announcement on the 2nd October that King Charles of Rumania had been made a Russian Field-Marshal.

Meantime the Powers did what they could for peace. On the 6th October they agreed to present two joint notes—one to Turkey urging the need of prompt reforms under suitable guarantees, and the other to the Balkan States, ordering them to leave the Macedonian question to be settled by the Powers, and warning them that they would not be allowed to benefit territorially if they broke the peace. Before the note could be presented Montenegro declared war on the 8th October against Turkey, and began operations on the 9th October. It is said that the Montenegrin King was forced into this premature action by the passionate desire of his people for war, but it is more probable that this step was taken, with the concurrence of the Balkan States, for political and military reasons, *viz.*, to secure Scutari before its defences could be strengthened, and to detain as many Turkish troops as possible in the west, so as to prevent them from being transferred to Thrace.

On the 13th October the Balkan League replied to the European note of the 8th October, that, in view of past experiences, definite guarantees for Turkish reforms were indispensable, and that the League would deal directly with Turkey on the matter. The demands they put forward separately were: an autonomous Government for Macedonia, under the supervision of the Powers and the Balkan League, and the demobilization of the Turkish Army. These demands were not accepted by the Turks.

On the 14th October the Montenegrins captured Tuzi, and on the same date the parliamentary deputies from Crete—

a Turkish possession—were admitted into the Greek Parliament. This act was a definite declaration of war on the part of Greece. On the 15th October a peace was signed between Italy and Turkey, which rendered problematical the Greek command of the Aegean Sea. On the 16th October the Montenegrins captured Berane, and Turkey recalled her ministers from the Courts of Bulgaria, Servia and Athens, and announced that further negotiations with the Balkan League were incompatible with her dignity; then on the 17th October Turkey declared war against Bulgaria and Servia, and Greece declared war against Turkey. Up to the last moment Turkey had been trying to detach Greece from the League by offering to give up Crete and to allow of the Greek and Turkish railway systems being connected, a concession which the Turks had hitherto opposed; but Greece refused to listen and threw in her lot with the League. Declarations of neutrality were made by all the great Powers, who determined to act in concert to localize the war, though Russia and Austria were admitted to have special interests in the Peninsula.

In the meantime the particular ambitions and aims of the several Balkan States gradually became known. The hatred of the Turk throughout the whole Balkan Peninsula is a consuming passion, and reason was overpowered by an overwhelming desire for vengeance. The principal disturbing element was the long-standing Macedonian question; before 1912 the Balkan States declared that they wanted nothing more than reforms in Macedonia, and, as a matter of fact, any proposal at that time for the partition of Macedonia would have caused a serious quarrel between the Balkan States. But during 1912 these States apparently came to an understanding about such a partition, in spite of the warning of the Powers that they would not permit of it. The crux of the Macedonian question is, that out of 2,200,000 inhabitants of Macedonia, only 800,000 are Mohammedans, while 1,300,000 are Christians, mostly of the Greek orthodox faith, and these are of Bulgarian, Servian and Greek origin. The older idea of a Balkan Federation had now given way to the new idea of a Greater Bulgaria, Greater Servia, Greater Montenegro, and Greater Greece, at the expense of Macedonia and Albania. The Servians have a special hatred against the Albanians (who are mostly Mohammedans), and who in the past had persecuted their Serb subjects. These new ambitions ran across the predetermined and proclaimed path of Austria's expansion southwards to Salonica—which port was also wanted alike by the Bulgarians, Servians and Greeks. Servia wanted Old Servia and the northern portion of Albania with the port of Durazzo, free from Austrian control. The prohibitive cost of making a railway to that port has, I believe, done much towards cooling off this Servian desire, in the face of the declared intention of Austria and Italy (doubtless backed up by Germany) not to allow any mutilation of Albanian territory.

Austria also feared that an enlarged Serbia would only mean an extension of Russian power, and that if Serbia had a port that she could fortify it would be placed at the service of Russia in case of war.

Montenegro wants Scutari, the port of San Giovanni de Medua, and to divide the Sanjak of Novi Bazar with Serbia. Austria has apparently given up her desire for Salonica, for she has withdrawn her opposition to the occupation of the Sanjak of Novi Bazar by Montenegro and Serbia, and has offered Serbia the free use of a port on the Adriatic, north of Montenegro, with special rights in the use of any railway that may be made leading to it; she has also invited Serbia and the other Balkan States to join her in a customs union, but Serbia wants a free and unhampered hand in managing her own affairs. Greece now wants the Epirus and an extension of territory north of Thessaly, to include Salonica and the territory to the east of that port as far as Kavala; she also wants the islands of the Aegean Sea, in addition to Crete. Bulgaria wants to get all she can of Thrace and Macedonia, including Salonica, which is also wanted by Serbia, and is now being held by the Greeks, who also want it; but if Bulgaria gets most of what she desires she will possess the ports of Kavala and Dedeagach. Russia is opposed to Bulgaria possessing Constantinople and the Dardanelles, and to Greece holding any island that commands the entrance to the Dardanelles. The possession of Constantinople and the Dardanelles is the difficult problem for solution. The Albanians have not hitherto been a united people, being rather a mixture of tribes, and among them is to be found a very large colony of Wallachian emigrants from Rumania. The Albanians were divided in their allegiance during the war; a very large proportion of them are Mohammedans, and many fought at first on the side of Turkey. They have now proclaimed their independence. Rumania has been the enigma of the Balkan peninsula. If she had not preserved a friendly attitude towards Bulgaria the latter would have had to send half her forces to guard the Danube. From what has happened we may be sure that Bulgaria would not have thrown her full strength against Turkey if she had not been fully assured of the neutrality of Rumania, who is probably the stronger power of the two, and who is known to have taken her cue for the last 20 years from Austria (and, therefore, Germany) rather than from Russia. It is probably for this reason that Rumania did not join the Balkan League, backed as it is by Russia. On the other hand, it is said that Rumania, in agreement with Austria, had made every preparation for mobilization in event of either eventuality—of the Bulgarians being driven back to Sofia or of the Turks being forced into Constantinople. It is stated that as far back as 1903 Rumania warned Bulgaria that in the event of any territorial expansion of the latter she would require in

compensation a strip of Bulgarian territory (probably north of the line joining Rustchuk and Varna), as the price of her neutrality. Rumania also wants the free use of a railway to some port on the Aegean or Adriatic Seas, and desires an autonomous Albania, with a strong representation of her Wallachian emigrants there. Lastly, Turkey has no intention of granting complete home rule to anyone. The Turks declare that the country would long ago have settled down if it had not been for the criminal proceedings of the insurgent bands, organized in and financed from Bulgaria, in order to provoke massacres, so as to bring about the intervention of the Powers, with a view to weakening the Turkish power in Europe. The Turkish delegates in London reminded the Balkan States that before the war they had denied any desire for territorial aggrandizement, but that their sole object was to gain reforms for the Christian subjects of Turkey; these reforms were now promised, and therefore there is nothing more to do than for everyone to return home!

THE THEATRE OF OPERATIONS.

On this subject but few words need be said, and we need only confine ourselves to Turkey proper.

The probable theatre of naval operations was the Aegean Sea.

The theatre of land operations is a mountainous region, with few and indifferent roads lying in narrow valleys. The lines of railway shown on the map¹ are but single lines lying in valleys.

The most open part of the theatre lies in Eastern Thrace, to the east of the River Maritza, and between Adrianople and Constantinople; the most mountainous part lies to the west of the River Vardar. The two valleys of the Vardar (leading to Salonica) and of the Maritza (leading to Adrianople) marked the principal lines of advance of the Servians and Bulgarians. Between these two valleys lies a strip of mountainous country, 200 miles long from east to west, and some 50 miles in breadth from the Aegean Sea on the south to the Rhodope mountains on the north. In this strip lie the valleys of the Struma, the Mesta,² and the Arda, all of which streams take their rise in the Rhodope mountains. These mountains are prolonged to the north-west along the frontiers of Bulgaria and Servia, and to the east of the Maritza near Adrianople. The whole line of these mountains can be crossed only at very few points by large bodies of troops, the other crossings being only rough and very narrow paths or tracks.

The river and railway systems in Turkey are best seen by an examination of the map, but the single line railway passing

¹ See map in the November number of the JOURNAL, facing page 1634.

² Also called the Kara-su.

through the central section and connecting Constantinople and Salonica should be noted. Its importance lies in the fact that, as the Turks did not obtain the naval command of the Aegean Sea, it was the only means by which Turkish reinforcements and supplies could be sent to the west from the east. This railway almost touches the sea coast near the port of Dedeağaç, where it could be raided by landing parties if Greece held the naval command of the Sea—an eventuality which actually happened.

THE ARMED FORCES OF THE LEAGUE AND OF TURKEY.

The opposing forces have been so ably dealt with in the last few numbers of the JOURNAL that I shall only speak very generally on this matter.

With the exception of Montenegro, the forces of the Balkan States were based on compulsory service. The forces are divided into (1) a Field Army with Reserves, and (2) a Militia or Territorial force embodying those not drawn for the Field Army. The men drawn for the infantry of the Field Army serve two years continuously with the Colours, and 18 years with the Reserve—cavalry and artillery serve a year longer with the Colours and two years shorter with the Reserve. The Militia troops serve only for some days annually for a series of years.

The Bulgarian and Servian Armies were well trained and well provided with artillery and ammunition. Their soldiers were good and used to hardships. The cavalry was the weakest arm, owing to lack of good horses. Sufficient supplies were carried for eight days, without replenishment. On some occasions the men carried sacks with food and ammunition supplies for several days. The transport was the weakest element of the armies; the first line of transport consisted of light four-wheeled carts, carrying 1,200 lbs.; the remaining lines of transport consisted of country carts drawn by bullocks, that could only move about ten miles a day. These carts were organized in sections of 200, with five sections forming a transport unit of 1,000 carts.

The Bulgarian Army available for active service amounted on paper to 300,000 men, but it is pretty certain that by making use of Militia units, by utilizing Macedonian auxiliaries, and by calling up the conscripts for 1913 and 1914, the Bulgarians were able to make use of at least 400,000 men.

Similarly, the Servian Army available for active service amounted on paper to about 200,000 men, but this was probably increased to 300,000 by the same means as the Bulgarians employed.

The Bulgarian and Servian Armies are organized in divisions of all arms of from 20,000 to 25,000 men each; these are really small army corps.

The Greek Army consisted of about 120,000 men, backed up with a Militia home force.

The Montenegrin Army consists of about 50,000 men, and is really a tribal Militia; it has little power to act offensively owing to want of transport.

In speaking of the Turkish Army we must go a little more into details, for it is here that we shall find the main causes of the Turkish defeats. Field-Marshal Von der Goltz, who had been for many years the German adviser of the Turkish Government, has stated that up to 1908, under the rule of Sultan Abdul Hamid, Turkey had no real Army, but only an ill-organized levy; and that it was only in 1908 that the Young Turkish Party set about creating an Army in the modern sense, with trained peace establishments, backed up by a long series of reserves behind them. This work of reorganization, with 30 years of lethargy behind it, lacked the necessary instructive forces, and hence it was not carried out with a right understanding. It was not possible to communicate suddenly to people a knowledge of modern tactics, of the methods of conducting a war, and of the means necessary for so doing, when there was no one to act as instructor. The *Redif* (or Reserve) officers and men were quite untrained in many cases, and sometimes did not even know how to handle their weapons. Von der Goltz therefore asserts that what has succumbed in the Balkan War was an Army of recruits faced by an Army that had been preparing for 27 years for war. In 1910 the Turkish Army had been reorganized and redistributed over the Empire, and when the war broke out the new arrangements had not yet been got into working order. Hence, mobilization, when ordered, was most difficult to carry out, and all the more so, as only three weeks before the campaign began a whole year's contribution in men to the *Nizam* (or regular) Army, as well as the first-class *Redif* divisions (perhaps 150,000 men in all in Europe), had been disbanded for financial reasons. The men were only partly got back, and these with great difficulty, and hence the ranks were largely filled with new recruits. There was no enthusiastic response to the appeal to mobilize, and the mobilization was interfered with by rebellions in Albania.

The civil commotions and conflicts that had rent the heart of the Turkish Empire since the Revolution of 1908, had told heavily against the discipline of the Army. Sultan Abdul Hamid had feared officers of ability and had banished them; among these was Nazim Pacha, the late Turkish Commander-in-Chief during the war, who was imprisoned for 17 years, being only released during the Revolution of 1908. The ascendant Young Turk Party had got rid of the old school regimental officers, who were opposed to its reforms, and had replaced them with political adherents, who were far more pre-occupied with politics and place-hunting than with their military duties. The degradation of the Sultan (the personal and sacred

representative of the Prophet on earth), and the transference of his sovereignty to the hands of men who had no claims whatever to sanctity, had shaken the simple soul of the Turkish soldier, and the disappearance of the old regimental officers (who at least maintained a sympathetic patriarchal control over their men, and could obtain their obedience and confidence), sapped the faith and loyalty on which the devotion and military spirit of the old Turkish Army depended. The political intrigues of the Young Turkish officers completed the work of demoralization.

The new law of 1908 enforced compulsory service on all Turkish subjects, including non-Mohammedans; this last element proved a disastrous source of weakness, as we shall see, as it produced wholesale desertions during the war, even at critical moments and in battle.

The Turkish Army is now composed of a *Nizam* (an active) Army, with three years' Colour and six years' Reserve service. Besides these are the First-Class or Mobile *Redifs*, with nine years' Territorial service. The Second-Class *Redifs* are composed of men in excess of the annual requirements. Many of these classes had no permanent establishments nor staffs, and had had no training whatever at the time when the war broke out.

The new organization of the Turkish Army had not made any real provision for sufficient staffs and administrative services; the *Redif* units were particularly badly served in these matters; as a matter of fact, the Young Turkish Party had relied on European intervention, because the Powers had supported them in their Revolution, and had persuaded them to give up the manoeuvres that would have secured them an early mobilization. But their régime had proved almost worse than that of the Sultan they had deposed.

Hence it was that the Balkan League, excellently schooled, found the Turkish Army quite unprepared at the outbreak of the war, since its mobilization was only then begun, its administrative services were wanting in every direction, and many of the men were quite unable to use their weapons effectively. The Turkish artillery, in particular, was quite untrained for its high duties, and the ammunition supply provided for it was totally inadequate. The Turkish cavalry also was very inefficient, ill-trained, and ill-mounted.

The Turkish soldiers possess many most excellent military qualities, especially when acting on the defensive, and are inured to hardship, but the *Redifs* had not had sufficient training, nor were they possessed of proper administrative services and trained staffs to admit of offensive operations being undertaken, while their officers were most inferior and totally insufficient in numbers.

It seems that most of the war material required by Turkey and the Balkan States was procured from other countries even

during the war. Thus, Bulgaria and Servia procured their material from Russia, and Turkey was supplied from Germany by way of Rumania and the Black Sea. This probably accounts for the Turkish fleet remaining in the Black Sea to prevent the Bulgarian torpedo-boats from intercepting supplies.

THE RIVAL NAVAL FORCES.

TURKEY : Three battleships of about 10,000 tons, one rather old; two modern cruisers of about 4,000 tons; 12 destroyers; 12 torpedo-boats.

GREECE : One new armoured cruiser of 10,000 tons; three small warships; 12 destroyers.

BULGARIA : A few torpedo-boats for the defence of Varna and Burgas.

It would thus appear that the Turks were slightly stronger on paper than the Greeks, but no doubt the Turkish fleet had been so neglected and ill-administered that the Turks felt that they were not able to dispute with Greece the naval command of the Aegean Sea, and consequently kept their fleet in the Black Sea. They thus abandoned not only the sea communications between Constantinople and Salonica (in case the rail connection was cut), but also the sea communications with Asia Minor, from which large numbers of men and stores could be obtained.

STRATEGICAL CONSIDERATIONS.

It was known that Bulgaria and Servia could mobilize and concentrate long before Turkey could act offensively, and it was determined to take advantage of the intense moral and religious enthusiasm pervading the Balkan States, in order to strike at Turkey before she was prepared, and while she was in the midst of a disintegrating political strife that had arisen over the failure of the Young Turkish Party to drive the Italians out of Tripoli, and the prospect of having to yield up that province to Italy, after having just lost Bosnia, Herzegovina, and Rumelia.

The possible battle grounds had been marked out by nature. Owing to the difficulty of crossing the Rhodope Mountains bordering the section between the valleys of the Maritza and the Vardar, and to the absence of any places of political or military importance in that section, it was evident that there would be two theatres of operations—an eastern one, east of the Maritza, and a western one, west of the Vardar. In these two theatres also lay the great military and political strategic points. The solitary railway link connecting these theatres can be approached from the north by the valleys of the Struma and Mesta and those north of Gumuljina, thus necessitating a Turkish occupation of these lines of approach. This connecting section of land contains a very large population hostile to Turkish rule and ready to rise against it.

The western theatre of operations is not suitable for the movements of large masses, since, owing to the mountainous nature of the country, such movements are restricted to long narrow valleys, while the country is not fertile. In this theatre lie Uskub, the capital of Old Serbia, and the headquarters of the most advanced Turkish Army Corps (the VIIth, under Zekki Pacha) in the direction of Serbia; Salonica, a good port, in rail connection with Constantinople, Monastir, and Mitrovitza through Uskub, and the headquarters of the Vth Turkish Army Corps; and Monastir, headquarters of the VIth Turkish Army Corps. Salonica was the common base of supply for all three army corps. The VIIth Army Corps at Uskub was distributed over the Sanjak of Novi Bazar, on the borders of Montenegro, and along the Servian and Bulgarian frontiers to Kratovo. It had the 24th Independent Division at Scutari, but the 22nd Division at Kochana was ordered to form part of the force opposing the Greeks; on the other hand, it had received a *Nizam* division from Adrianople when the Albanian insurrection was at its height, but later many of the troops (how many is not yet known) were sent back to Thrace as being the more important theatre of operations. The VIth Army Corps at Monastir guarded Turkish interests in Central Albania; and, on account of the facility of the road communication, it probably provided the force that first opposed the Greek main advance, and also the extra troops required to support the 23rd Independent Division posted at Yanina, which had to oppose the Greek advance in the Epirus. The Vth Army Corps at Salonica had to guard the Struma and Mesta valleys, as well as Salonica, and it is probable that this was the corps that was most drawn upon for reinforcing the troops concentrating in Thrace.

In this western theatre of operations the only really important point on the League side was Sofia, which was in rail communication with Kustendil and the Divi Bair Pass. If the Turks could break through here they could seize Sofia, the Bulgarian capital, and completely sever the connection between Bulgaria and Serbia, and thus cut off all the supplies for the Bulgarian Army, except such as might be obtained with great difficulty through Rumania. Moreover, such a success would most certainly have brought Rumania into the field against Turkey. Anyhow, it would have forced the Bulgarians to fall back, and in the face of this danger, it was a most splendid and daring decision for Bulgaria to leave the fate of Sofia practically to Servian guardianship, and to fling her whole force on Eastern Thrace. The nearest important town in Serbia was Nish, in rail connection with Uskub, but it was of far less strategic importance than Sofia.

The valleys, in which lay the roads and railways, laid down the lines of operation in the western theatre of operations. Montenegro could only act towards Scutari and Berane, and hold the Turkish troops there, but, being without transport,

was unable to attempt any extensive offensive operations. The Servians, concentrated around Nish, could only advance over the passes by Prepolatz¹ on Pristina and Uskub, by Vrania on Uskub, and, by permission of the Bulgarians (which was given), by Kustendil on Uskub, while a small force moved towards Novi Bazar to over-run the Sanjak in conjunction with the Montenegrins. The mountainous character of this theatre, the badness of the roads, and the want of local supplies, made this separation of forces necessary to enable them to be fed and supplied, but the forward movement of the main Servian forces led naturally to a concentration at Uskub. The Greeks could only advance in force from Larissa towards Salonica, while a small force was sent from Arta to Yanina. The Greeks could also attempt a landing anywhere on the Aegean coast; this power they made use of to land a small force on the Chalcidic promontory to co-operate in the final Greek advance on Salonica.

The Turkish Army Corps in the west could only distribute their troops to face these movements. But at the same time we must remember that they were acting among an intensely hostile population, who were adepts at guerilla warfare, for which the rugged and wooded country was well suited.

The eastern theatre of operations is the only one suitable for the movements of large masses of troops, while it offered the shortest line to Constantinople, the moral and political importance of which cannot be over-estimated, since it is the centre of Mohammedanism. Consequently, from a theoretical point of view, the western theatre of operations should be considered as of secondary importance; but in view of the political considerations of the case—the need of giving a strong support to the Turkish Christian subjects to rise, the possible danger there might be to Sofia, and the uncertain attitude of Albania—the western theatre was, *at the outset of the war*, but little less important than the eastern. Consequently, the principal forces of Servia, Montenegro and Greece were given the task of assailing the Turks where they could find them, and of rousing and arming Christian insurgents as auxiliaries, while minor bodies overran the Sanjak of Novi Bazar and Epirus, which were only held by numerous small Turkish detachments aided by irregular bands of Albanian Mohammedan auxiliaries.

In the eastern theatre of operations, the chief places of importance are Adrianople and Constantinople, to which may be added Kirk Kilisse, Kuleli Burgas, Dimotika and the ports of Dedeagach and Rodosto. Constantinople, the Headquarters of the 1st Army Corps, was the chief base of supply for all the army corps in Thrace. Adrianople, the Headquarters of the IVth Turkish Army Corps, is a strongly fortified place,

¹ On the frontier near Poduyev, north of Pristina.

with a defensive line of about 22 miles in length, studded with well-armed forts, and guarded by at least 50,000 men; it blocks the Maritza and Tunja valleys, and therefore the roads and railway found in these two valleys, by which the Bulgarians would desire to supply their forces. The failure to capture Adrianople caused immense difficulties to the progress of the Bulgarian Army, which, under the circumstances, could only be supplied from Yamboli and Burgas by wheeled bullock transport working over inferior roads. The occupation of both Kuleli Burgas and Kirk Kilisse was necessary to protect and keep open the rail communication between Constantinople and Adrianople. Kirk Kilisse, the Headquarters of the IIIrd Turkish Army Corps, blocks the only other roads coming over the mountains from the north, by which an invader could reach the rail supply line from Constantinople; it was strengthened by field works. At Kuleli Burgas and Dimotika there are important railway bridges on the railway leading to the ports of Dedeagach and Salonica; these bridges might be reached by a cavalry raid across the Arda. If the line Dedeagach—Kuleli Burgas fell into the hands of the Bulgarians, they could then (since the Greeks held the naval command of the Aegean) be supplied with men and supplies by Dedeagach, and from there by rail, thus neutralizing to a considerable extent the effect of Adrianople in blocking the more direct line of supply. It is not known why this additional base was not made use of early in the war. Rodosto, the Headquarters of the IIInd Army Corps, is a port on the Sea of Marmora, by which the Turks received numerous reinforcements and supplies from Asia Minor.

The only important points in Bulgarian territory, so far as the eastern theatre is concerned, are Philippopolis, Yamboli, and the port of Burgas. Philippopolis is within three hours march of the Turkish frontier, and a considerable body of Turkish troops has always been posted at Tamrush, in the sharp angle formed by the frontier at that point. A railway branches from Philippopolis by Eski Zagra and Yamboli to Burgas, thus facilitating the supply of the troops to be assembled at these latter places, which lie some 60 miles north of Adrianople and Kirk Kilisse, and in good road connection with them.

The Bulgarians knew that they had a temporary superiority of numbers on account of the slowness of the Turkish mobilization, and their concentration over great distances, but for how long this superiority could be maintained was not known. Time was on the side of the Turks, and so it was to Bulgaria's advantage, as soon as her concentration was complete, to strike with every available man and with the utmost rapidity possible at the Turks assembling slowly in Thrace, and to do this while the moral enthusiasm of the troops was high and before it could be lowered by losses, fatigue, sickness, hardships and defection. Rain and snow were also soon expected, which

would make the passes that had to be crossed more difficult to negotiate. As the Turks were not able to strike first, the Turkish force collected at Tamrush, near Philippopolis, could be first dealt with, but to advance from here in force by the Arda Valley against the west of Adrianople was quite out of the question, owing to want of roads and the difficulty of the country. Such an advance, if it had been possible, would have at once endangered the Turkish railway communications with Salonica, but on the other hand, it would, if successful, have only driven the Turks back along their line of supplies.

An advance in force by the Maritza and Tunja valleys would only bring the Bulgarians straight against Adrianople, with no strategic advantage, but an advance in force by Kirk Kilisse, while isolating Adrianople, would give ample space for the advance of a large force on a wide front, and would, if successful, lead to decisive results, because such an advance would directly threaten the Turkish communications with Constantinople, and afford a chance of driving the Turks back on the Sea of Marmora. But, on the other hand, every mile of advance in this direction would at once increase the greatness of the difficulties of bringing up supplies from the bases at Yamboli and Burgas, because there was only one comparatively good road (that from Adrianople to Constantinople), and therefore inferior country tracks would have to be made use of, which would soon be cut up by the enormous traffic passing over them, and which any rain would quickly convert into a quagmire; and all these disadvantages would be increasingly felt as the advance progressed and the distances from the bases increased. On the other hand, if the Bulgarians were unsuccessful and were forced to retire, they would only move back along their line of supply, the Turks then taking over the disadvantages named above; and, if necessary, the Bulgarians could retire over the Balkans, and be fed and supplied by rail from Sofia or from Rumania, and here they could actually rely on the Rumanian Army for assistance. Theoretically, any Bulgarian advance by Kirk Kilisse could be threatened in rear by the landing of a Turkish force on the Black Sea coast, but practically there was no real danger from this, as such a force could not have the necessary land transport to move far from the coast in the midst of a hostile population, and any early Bulgarian successes would paralyze any such Turkish projects. Hence Burgas and Varna were left to local troops, and were defended seawards by mines and batteries.

Another point was the early cutting of the rail communication between Constantinople and Salonica. This could probably be effected by a relatively small force advancing down the Struma or Mesta valleys, or by locally raised insurgent bands. For this purpose, and perhaps to support the Servians in case of need, as well as to uphold Bulgarian interests in Macedonia, a Bulgarian division was assembled at Kustendil, with the

Servians who had also been collected there for an advance on Uskub.

The bulk of the Bulgarian troops was at first concentrated at Philippopolis and Seimenli, threatening Adrianople; and there was the force collected at Shumla; but preparations had been made, and transport and supplies collected all along the line from Philippopolis to Burgas (under cover of a cavalry force placed near the frontier), for the reception of troops and for their forward movement southwards before the Turks could realize what was being done. One of the most important lessons of the war is the advantage derived by the Bulgarians from the close secrecy they maintained as to what they were doing during their operations. All now depended on Bulgaria acting in strength and with rapidity, before the Turks had time to prepare any serious resistance, so as to push them back on to the Sea of Marmora before they could rally. This, in fact, was very nearly accomplished—its actual realization being only prevented by poor transport and bad roads, by rains which made these roads almost impassable, and perhaps by the want of a good and strong cavalry arm. These adverse conditions could not be remedied until the capture of Adrianople was effected, as that town blocked the only line of rail, though perhaps the Greeks might have made an effort to supply the Bulgarian Army by Dedeagach, after the capture of the railway leading to that port—which could have been effected much earlier than it was. (As a matter of fact, this port was only made use of at the end of the war, when the terms of the armistice were under discussion). It is possible that light railways or tramways and supply depôts may have been pushed southwards from the Yamboli-Burgas railway, to facilitate the enormous labour of supply.

As regards the Turkish positions in the eastern theatre of war, it was fully realized that the chief factor was *time*, owing to the great length of the Turkish lines of communication in Asia. The Turks hoped eventually, if given time, to obtain the benefit of superiority in numbers in Thrace, where lay the centre of gravity of the war. Asiatic reinforcements could enter Europe unmolested at Gallipoli, Rodosto and Constantinople. At these ports also supplies could be collected and forwarded to the main area of concentration lying in the rectangle Adrianople, Kirk Kilisse, Eski Baba and Dimotika. Some use was made of the port of Midia in the Black Sea for landing Asiatic reinforcements for the Turkish right wing when the Turkish Army had been forced back towards Constantinople. The Turks, knowing that they could not expect to mobilize and concentrate before the Bulgarians, had arranged that the concentration in Thrace of their *Redif* divisions and reserves should take place along the Ergene River, a tributary of the Maritza, and that this concentration should be covered by the four local *Nizam* Corps (Ist, IInd, IIIrd, and IVth) posted

between Adrianople and Kirk Kilisse. And it is probable that, at the beginning of October, there were some 20 *Redif* divisions, of small fighting value, being collected on the Ergene. It must be remembered that the *Nizam* troops were only partially trained troops, that one-third of them were only recruits, and that they had no trust in their untrained politically-appointed officers; while the *Redif* troops were for the most part quite untrained, were without a sufficient complement of regimental officers, and were ill-provided with general and administrative staffs or any means of supply. It is no exaggeration to say that at times the men were in such a state of starvation that they were quite unable to face the enemy at all.

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NOTE.—The Lecturer then gave an outline of the military operations based on the reports which had appeared in the Press up to the end of January, 1913.

SOME OF THE LESSONS OF THE WAR.

The lessons to be learnt from the war are more in the direction of confirming the lessons of the past than of affording new light.

First and foremost I would put the need of a country's naval and military preparations being *at all times* in such a state of readiness as to be able *at any moment* to defend and even enforce the country's policy on matters vital to her progress and life, when these are assailed. A neglect of this principle brought disaster to the Turks; and we also suffered greatly for the same reason at the beginning of the late war in South Africa; General Buller complained before the outbreak of the war that our military preparations had not proceeded *pari passu* with the militant policy we had adopted, and in consequence we had to pour out men's lives and money to remedy the error. Perhaps with our Committee of Imperial Defence, which brings together our statesmen and naval and military advisers, such a thing will have less chance of happening again than in the past. But it proved disastrous for Turkey; her new military organization had been but feebly pushed on for financial and party-political reasons—and this often threatens to happen here in England—with the result of untrained troops, unorganized reserves, insufficient and inefficient officers, no staffs or administrative services worth speaking of, and no generals capable of manœuvring large masses of troops. We are professedly relying on a principle that broke down with the Turks, for we are relying on our own Territorial (*Redif*) forces being able to have six months' training after the outbreak of a war before facing the enemy. If our naval forces are overcome or evaded successfully, we certainly shall not get that time, and no amount of enthusiasm will make up for deficiency in training. I see no remedy for this except the adoption

of a compulsory *Militia* system of service for our Territorial Forces. By the term "militia system of service" I mean the compulsory training of a suitable proportion of the young male population of the country, for a few weeks only each year, for a term of years; the "cadres" would be permanent and formed of Regular officers and N.C.O.'s, and would train a succession of men all the year round; the eugenic benefit to the country would be quite equal to the military benefit, and with compulsory service there would be no need to slacken efficient training on account of its affecting recruiting—as has happened from time to time.

The value of *sea command* has been well exemplified during the war. The very weak command held by the Greeks was sufficient to hamper the Turks enormously.

The supreme value of well-chosen and well-provided *fortified places*, blocking the important lines of hostile advance and of supply, has been well illustrated. As yet we have little or no definite information on the siege operations undertaken by the Allies, nor on the Turkish mode of defence; but this latter seems to have been very active and successful, in spite of the fact that the necessary eventual retirements of their sorties have always been represented by war correspondents as "defeats."

I must say that one of the features of the war that has greatly fascinated me, though so little has been said about it, is the supply arrangements of the large Bulgarian Army (probably about 400,000 men, with all its "appendages"), over a distance of 200 miles by poor tracks and with poor transport material. In our largest war (before the late South African War) we placed only 70,000 men in Afghanistan, about 200 miles from India, and it was all we could do to keep them fed and supplied; but then we had only pack transport. I expect that the Bulgarians, like the Japanese in 1904-5, made a large use of human labour to get forward supplies in bad weather. Often the men are reported to have carried sacks containing their food and ammunition for some days. The Bulgarians were wise in their decision to make every preparation to carry on the war on the supposition that Adrianople would hold out; yet, with all their preparations, the obstacles to the land transport available were such that the Bulgarians had, like the Japanese in Manchuria, to pause for some days after their two great efforts at Kirk Kilisse and Lule Burgas to collect the necessary supplies of ammunition and food before they could proceed again with their advance. This war has again shown what was so extraordinarily exemplified in the Russo-Japanese War, *viz.*, the great supplying power of even a single line railway. The Russians supplied half a million men over 5,000 miles of such a railway of indifferent construction.

The political and military weakness of "allies" has again been shown, as well as the effect of politics on war and of war on politics, and on possible allies hitherto neutral. War rises out of politics, and must always remain in close connection

with politics and financial considerations from start to finish; and in the end it is usually the political and financial strain that brings about peace, as was certainly the case in the late Russo-Japanese War. The Allied successes made Albania neutral, but on the other hand, roused up Rumania, Austria and Russia, owing to the selfish ambitions and greed for plunder of the Allies. This moral effect of the victories and defeats of the war on public opinion was most marked, not only among the warring States, but also on Europe; in some instances a complete change of opinion has been produced.

We may specially note the effect on the war of the religious enthusiasm of both sides, and of their hatred of the enemy, and the *frenzy* these factors aroused in forcing all fighting to a finish. In this matter the victors were those who were most fired with the determination to win or die at all costs, and they won; perhaps they rose to a higher pitch of determination to win than even the Japanese reached in 1904-5 in their war against Russia. But this "will to win" would have been wasted but for the splendid leadership and previous thorough military training of the Bulgarians and Servians, who struck rapidly and struck hard while the national moral enthusiasm was raging hotly, and after the fullest preparations had been made during many years before. In Bulgaria and Servia the response to the call to mobilize was far beyond what was expected, while in Turkey the call was so unpopular that every effort was made to evade it. It may be remembered that in 1899, mobilization was supposed to be so unpopular with us that our Militia was not mobilized, as it was intended to be, causing immense confusion at home, until three months after the Boer War had begun, when a series of disasters had occurred. It is difficult to say what our party-political system is developing into, and into what national disaster it may yet lead us. For some 20 years or more the Bulgarians and Servians had been steadily training their officers and men for the war that they foresaw had to come some day, and they took the best European models they could find for their examples for imitation.

Besides the need for the rapid local mobilization of units of all sizes, complete in staffs and administrative services, there is an equal need for a rapid and wise concentration or disposition of the units for the opening of the war in accordance with both the political and military factors of the case. Nothing can deserve higher praise than the splendid determination of Bulgaria to trust the safety of her capital to probable Servian successes in Macedonia in order that she might fling herself with all her force on the Turks in Thrace. The concentration and operations of the Allies were admirably aided by the wonderful secrecy they maintained as to what they were doing. Successful operations and victories were carried out without the advice and suggestions, or even of the presence, of war correspondents, to the advantage of the combatants concerned.

Even battles were reported of two or three days' duration, that never took place at all, in order to maintain a veil of mystification. Even the very existence of the Balkan League was not known until shortly before the war broke out. And we may also appreciate the moral value of the "terminological inexactitudes" used in exaggerating victories or minimizing defeats for the purpose of maintaining the enthusiasm, even temporarily, of such an excitable, shifting, changeable and unreliable thing as "public opinion."

The mountainous character of the theatres of operations confined the operations to the valleys, and again and again we find examples of the decisive effect of frontal attacks in one valley combined with wide turning movements through suitable neighbouring valleys. We also see the need of adapting our war material to the country operated in; the narrow mountain valleys were ill-adapted for wheeled guns, and as the Turks were ill-provided with draught animals, they quickly lost their wheeled guns when forced to retreat in haste. In such inhospitable, difficult country, the larger masses of troops soon broke up into smaller units, on account of supply difficulties, as soon as they were deprived of rail communication, especially in times of bad weather, snow and rain. In Thrace the Bulgarians had to move over soft country tracks, which were soon broken up by the enormously heavy traffic and converted into swamps by rain; this, perhaps, was the greatest difficulty they had to contend with, with the country cart and bullock transport they employed.

One marked feature of the war consisted in the use of the guerilla insurgent bands that were everywhere formed by the Bulgarians and Servians; and, though deplorable, it was not surprising to hear of the atrocities that have been committed by both sides, by the Cross as well as by the Crescent, when we bear in mind the past condition of things and the racial and religious animosities involved. Many of the so-called atrocities in Thrace were only the natural result of literally starving and freezing soldiers seeking for food, fuel, and clothing, unchecked by the bonds of discipline.

As regards reconnaissance work, very little reliable information has come out about the rival cavalries, who do not appear to have been highly trained or to have been well mounted. Aeroplanes are said to have been used with success by the Bulgarian besieging forces before Adrianople for obtaining early information as to threatened sorties and for dropping proclamations into the fortress. No doubt difficulties of transport and supply, and bad weather, prevented them from being used to precede the Bulgarian advance, but if aircraft or cavalry, had been so used after the fighting at Kirk Kilisse or on the Ergene, the Bulgarians would have realized the panic-stricken character of the Turkish retreats, and might have safely risked a more daring strategical policy, that would have ended

the war by the crushing or capture of the Turkish Army and the Chatalja Lines. This difficulty of the victors in not knowing the exact state of their defeated opponents, has often led to very cautious movements. I saw a letter written by a Russian officer who had been shut up in Port Arthur in 1904, in which he expressed his opinion that if the Japanese had pressed after the Russians when they retreated into Port Arthur, they could have entered that place without serious resistance, as everything was in such utter confusion for the next 48 hours, that no one knew what to do, and no resistance had been organized. If this opinion is true, what would not the Japanese have given to have known it at the time? Wireless telegraphy proved of value in enabling communications to be kept up between Constantinople and Adrianople. The absence of trained general staffs, or, indeed, of any real staffs whatever, contributed notably to the Turkish disaster and confusion. Even administrative services were often wanting, with the result that the Turkish soldiers were often in such a starving and deplorable condition that they were simply unable to offer any real resistance.

My last comments refer to the tactical procedures made use of in the fighting that took place. As regards the long frontages taken up in a modern battle, we see that a long line of battle gives immense advantages to the attacking side over the defence, because the assailant can disregard any local failure along his front or any local piercing of it, while he has great opportunities for turning a hostile flank, and for choosing his own place and time for delivering his decisive assault; but, on the other hand, if one part of a long defensive line is pierced, the whole line is apt to give way, and a general retreat to follow. The Bulgarians seem to have always pressed their attacks home along the whole of the Turkish front, so as to tie down the defenders and their reserves, while the decision was made on a flank, but not always on the most desirable flank, owing to the efficacy of the Turkish resistance there.

As regards the actual fighting, we may note on the one hand the inferiority of the infantry and artillery fire of the Turkish soldiers, many of whom had had but little or no training in the use of their weapons, and whose ammunition often ran short; and, on the other hand, the tremendously effective support that the Bulgarian and Servian infantry received from their artillery, which was not only well supplied with ammunition, but was also superior in numbers and tactical training to that of the Turks. One war correspondent has kindly given me his opinion that "all issues of any manoeuvres have been decided by fire supremacy, in which the Bulgars were 6 to 1 better than the Turks; this may be an underestimate." The Allied artillery and infantry seem to have worked splendidly in combination, and it was evidently this overwhelming support, combined with

the inferior effects of the Turkish fire, that enabled the Bulgarian infantry to rush forward (over 440 yards, it is said) in masses to the bayonet attack; but, inferior as the Turkish fire was, it apparently inflicted severe losses on these charging masses, though not such losses as could check the momentum of their impetuous forward rush.¹ The action of masses making use of the bayonet seems to have been a marked tactical feature in the fighting that took place, and produced correspondingly marked effects. This frequent use of bayonet attacks was due to the fact that every Bulgarian and Servian was filled with a passion to get at the Turks with his bayonet. Against this frenzy of the men, the officers were powerless, and sometimes even regiments held in reserve are stated to have given way to this impulse. In fact, this bayonet fighting of masses would not have been possible, even with the inferior troops opposed to them, if it had not been for the battle frenzy that lay behind it, and which urged on the men, in spite of any losses. The Turks from the outset had far too few officers, and even these were most inefficient, with the natural result that the men, especially in retreat, got out of hand and panic-stricken. The Bulgarians suffered such heavy losses in officers that towards the end of the war the want of officers was greatly felt; this shows the need for a large reserve of officers.

Lastly, we must note the prominence given to night fighting, in order to secure surprise and to eliminate the effect of hostile infantry and artillery fire, especially when the enemy was entrenched behind bullet-proof cover. At Adrianople the defenders used searchlights to detect the Bulgarian night advances. The Turkish defeat at Kirk Kilisse shows the danger of night attacks that have not been prepared for by reconnaissance, and the danger of panics with ill-trained and ill-officered troops; it also shows the need of a well-trained staff to direct such an operation.

The Bulgarians admit a loss in battle of 25,000 men up to the armistice. This is at the most about 20 per cent. of the combatant troops in the first line, and took place chiefly in about six days' fighting. This agrees somewhat with the Japanese rate of losses, *viz.*, about three per cent. per day. The Japanese, however, were in no such hurry to push matters as the Bulgarians were, and so the Turkish firing cannot have been as efficacious as the Russian firing. In one single day's fighting in the late South African War, our losses were more than double this rate.

There are no doubt many other interesting lessons to be deduced from the late Balkan war, but we really have not as yet sufficient information to enable us to make any very detailed

¹ It must be stated that some war correspondents are very sceptical as to all stories of the fiery *élan* and bayonet attacks, as promulgated by the Bulgarians, who, however, did not allow the presence of war correspondents near the combatant troops.

examination of the successive events of the war, and I have only attempted to note some of the more prominent ones that have occurred to me from the loose and scattered information given by our great daily papers—or, rather, from such of it as I considered reliable or probable.

DISCUSSION.

Captain A. H. Trapmann, 25th (County of London) Regiment: The Lecturer has raised one or two points on which I think I may add a little further information. The first point to which I should like to refer is the question of the Greek troops co-operating in Thrace in the earlier stages of the war, and of helping to feed the Bulgarian Army by the line from Dedeagach. Colonel Mayne did not quite say why the Greek troops had not helped, either with arms or in feeding the Bulgarians, or by lending them their sea transport. I happen to be in a position to know it was purely a political reason why this was not done. The help was offered at the very beginning of the war to the Bulgarian Government. After Salonica fell there were five Greek divisions and the transports available; ships had been chartered there, about two weeks before the war began, to convey the troops, but the Bulgarians refused to have anything to do with it. They would not have Greek troops on that side of the operations. I think the Greeks were so annoyed at this, that they did not see why they should feed the Bulgarian troops if they were not to be allowed to share in their victories.

AN UNINTENDED CAMPAIGN.

There is one point which is perhaps interesting as illustrating an unrehearsed effect that took place. The campaign on the other side, that is to say, in Epirus, was not intended at all. The orders to General Sapountzaki, the Commander, who was the Chief of the Staff in the war of 1897, were that he was to "sit tight" and to hold the frontier of the river. The troops that he was given were men that were only about fit for such a task. They were odds and ends, and they were put together and called the Division of Epirus, which was not a division that existed in time of peace. It was improvised for the purpose, and it contained only one squadron of cavalry, a large number of irregular bands, a regiment of infantry which had been newly raised, and the overflow of recruits coming from America and Australia, for whom there was not room in the ordinary corps. The artillery consisted of men from the various depôts; they were hurried together and formed into a brigade of artillery. It was never intended to advance into Epirus, and it was never expected to take a fortress like the fortifications round Yanina, where there are 130 guns of over 4.7-in. calibre. The reason the Army of Epirus did advance, was due to the act of a second-lieutenant of cavalry, a reserve officer, who had fought as a private in the last war. His brother's name is very well known, Paul Melas. He is looked upon rather as a Greek martyr, much in the same way as we looked upon General Gordon. He was the Greek martyr in the affair of the Balkan and Greek bands in Macedonia three years ago. George Melas was very keen to smell powder again, and rather wanting to avenge his brother. He was a very popular man, and when all of a sudden, without any warning, he dashed over the bridge, he was followed at once, not

only by the men under his own command, but by everybody within hail; the Turks ran, and that night the Greeks had taken 20 miles of country. It was a pure chance. Having done that they said, "Well, now that we are here we had better stay here."

The Chairman, Major-General W. R. Robertson, C.V.O., C.B., D.S.O., Commandant of the Staff College: Ladies and gentlemen, it only remains for me to bring these proceedings to a close. The Near East has always been a very complicated and tangled problem to unravel, and I think we all feel that the Lecturer has come out of the ordeal very well.

Perhaps the most striking feature of this campaign is the marvellously rapid progress which the Balkan States have made towards national efficiency, and especially so in the case of Bulgaria. Less than forty years ago, Bulgaria, as a country, was hardly known, and in Sir William Russell's story of the Crimea Expedition, a sad and graphic picture is drawn of the abject state of serfdom in which the Bulgarians then lived. Sofia was then a mere collection of mud hovels; it is now a fine town with imposing buildings, wide streets, well lighted, and has evidently come to stay. Public works on a great scale have been undertaken throughout the country, education has advanced by leaps and bounds, and this Bulgaria, with a little over four million people, and with a revenue of only five millions, has produced a fine fighting Army of 400,000 men, or ten per cent. of the total population. As the Lecturer said, war was declared about the middle of October, and by the middle of November, one may say that all that was left of the Turkish Empire in Europe was Adrianople, the ground inside the Chatalja defences, the Capital, Yanina, and the Gallipoli Peninsula. How this was accomplished in a country devoid of roads and in bad weather, has been described by the Lecturer, and you will not wish for me to go over the ground already traversed by him. But there are one or two points that I may mention with respect to the campaign in Thrace that may be of interest to you.

DECEPTION AND SECRECY.

The first is the advantage derived by the Bulgarians from deception and secrecy. In peace time they have, as the Lecturer said, nine divisions, and these are formed into three Inspections of three divisions each. It was generally thought that in war these three Inspections would form three Armies. But they did nothing of the kind, and the Turks were greatly puzzled accordingly. Savoff extracted two divisions, the 2nd and the 7th, and concentrated them in a central position, so that they could be directed either towards Macedonia or Thrace, and eventually they were sent into the former country. A kind of "General Post" took place amongst the remainder, and a new division, the 10th, was formed, and later another, the 11th, was put into the field. The natural result was that when the Turks obtained news about any particular Bulgarian division it gave but little clue to the actual dispositions and intentions of the enemy. I have heard, for example, of an officer on the Turkish Headquarters Staff, showing on a map, during the early operations, the 6th Bulgarian Division as being nearly due north of Adrianople on the right centre of the Bulgarian advance, whereas, at the time, that division was second from the extreme left.

Another striking feature of the campaign was the great simplicity of the Bulgarian plan. As the Lecturer said, the dominating factor for

primary consideration was: what was she to do with Adrianople? Should she attack it, or invest and mask it? and if the latter, should her field Armies move by the right of it, by the left of it, or on both sides of it? She decided to invest it, and to move by the left or east of it. That was the general plan, and the execution of it was divided into three distinct stages: first, invest Adrianople; then bring round the left on Kirk Kilisse, which was known to have a large amount of supplies, and would form a good base for the further forward movement; and, thirdly, seek out and defeat the main Turkish Army. The dispositions were equally simple and sound. As the Lecturer said, the IInd Army was directed on Adrianople; the IIIrd on Kirk Kilisse, but kept well back; and the Ist, placed in the centre, had the mission, under orders from General Headquarters, of helping the IInd, if required, to invest Adrianople, and then turning towards and helping the IIIrd on the left flank in gaining possession of Kirk Kilisse.

It is interesting to notice how the cavalry was employed. As in our case, it consisted of one division, and there was the probability of being opposed by a greatly superior force of cavalry. The division was kept back on the frontier until the Ist and IInd Armies had gone some distance across it, its task being to screen the IIIrd Army, whose movements it was obviously desirable should not become known to the Turks. I think it is possible that when we get full details of the campaign we shall find much useful instruction in regard to the manner in which these screening duties were performed.

THE FIGHTING NEAR KIRK KILISSE.

With respect to the fighting hereabouts as a whole, it is necessary to remember that the so-called battle of Kirk Kilisse was, as a matter of fact, three distinct battles. The IInd Army was completing the investment of Adrianople when the Turks made a sortie to the north, and so brought on a battle which lasted some two days. In the centre the Bulgarian Cavalry Division, having crossed the frontier, marched straight into a large Turkish camp near Seliolu, and this resulted in another battle, which also lasted for about two days. Finally, on the left, some distance N.W. of Kirk Kilisse, was another encounter battle near Petra. Kirk Kilisse was a naturally strong position, further strengthened by some permanent works, and having regard to the general situation, it might have been thought the Turks would be certain to stay and fight on that position. But they did not, and again we see the unexpected happen. They went forward to meet the Bulgarians, much to the surprise of the latter. It is not yet clear why they went forward. Some people attribute it to their so-called German teaching, but it may perhaps have been equally due to political reasons or to bad military judgment. On the other hand, we know that Mukhtar Pasha himself was ten years in a Prussian regiment, and he appears to have had some German officers on his staff. The craving displayed by the Turks during the battle for enveloping tactics is also alleged to be due to German teaching. It is not a matter of great importance one way or the other, except that some people may be inclined to take the view that because the Turks failed, therefore offensive action and envelopment are to be avoided. But of course no such lesson should be drawn. The offensive remains, as ever, much the stronger form of battle, provided it is properly applied, and is suitable to the situation. The same may be said of enveloping

tactics. The case may be one of a little knowledge being a dangerous thing. The Turks knew something about these methods of fighting, but perhaps not enough to judge of their suitability to the particular circumstances of the moment.

One other point to notice is that the Bulgarian Headquarters were some 60 miles distant from the battle of Kirk Kilisse. That is not a good example to follow, and apparently there were special reasons for it on this occasion. The country was a sea of mud, with no roads; the General Headquarters had their telegraph wires laid out to Army Headquarters, and if they had attempted to move it might have taken nearly two days before good communication with the Armies could have been re-established. At first sight it might seem, when connected by wire, a matter of indifference whether Headquarters are 60 miles away or six, but for many reasons that is not so.

THE PENALTY OF UNPREPAREDNESS.

Finally, as the Lecturer said, the first and foremost lesson to be drawn from this war, is the old one—that the nation which does not make during peace adequate preparations for war, will one day have to pay the penalty. The only new thing about this lesson is that the penalty is now much greater than it used to be, and is exacted much more quickly. We did not need the war in the Balkans to prove that untrained and ill-disciplined troops cannot compete with the highly-trained troops of the modern Army. The modern Army is very formidable indeed, and it acts very rapidly, and when commanded by a man who knows how to use it, it may prove absolutely irresistible, as in this case. It has always been—given reasonable equality in resources—a great advantage to a nation to win first blood in a campaign; in these days the effect of this advantage is greater than ever, and consequently the necessity for readiness for war is now correspondingly greater. We may confidently affirm that in our Army this is fully realized, and that every officer in it is doing his best to fit himself to meet the demands of modern war. Whether the nation as a whole is equally alive to its responsibilities in the matter is another question, and one upon which my opinion is of no special value, and therefore I shall not express it.

All I now wish to add is—and I am sure you will agree with me—that we owe a debt of gratitude to the Lecturer for the enormous amount of labour and time he must have expended in collecting and putting together the information that he has given us this afternoon. I am sure he will be the first to admit that there is much more yet to be heard on the subject. We have not yet heard anything like the full story, and therefore are not yet in a position to say with exactitude what are the chief lessons to be learned, especially so in regard to tactics. But what he has said will nevertheless furnish us with a useful starting point from which we can prosecute our studies more completely and fully later on, and for that help you will wish me to convey to him your most cordial thanks for his interesting and instructive lecture.

THE NATIONAL RESERVE.

(I.)

By COLONEL J. G. HICKS, V.D. (retired), formerly Commanding
the Percy Artillery.

IT is impossible to overrate the importance of organizing the National Reserve on a sound and permanent basis.

If it is to escape the evanescence which is so often the fate of popular movements, and is to establish itself as one of the permanent institutions of our country, the details of such organization will require very careful handling. The successful establishment of such an institution as the National Reserve gives promise of becoming, will add enormously to the strength and well-being of the British nation, and will prove an asset of the utmost value in the day of that nation's need.

The provisional Regulations issued in March, 1913, have been, and are now being considered, by all the County Associations, and the use of the word "provisional" leads one to hope that future steps will remedy their defects and make good their omissions, some of which it is the purpose of this article to point out.

What is a "Reserve"?

The dictionary tells us that a reserve is something saved up, or kept for future use on special urgent occasions. The Bank of England maintains its gold reserve in order that it may have it to fall back upon, in case of vital necessity. The true use of the National Reserve should be the same, and any attempt to utilize it in ordinary times to make up shortages in the Active Services, or in order to avoid adopting what measures are necessary to obtain recruits for the Regular Army and the Territorial Force, must lead to disaster and to the destruction of the force itself.

The Three Classes.

It is open to question whether the division of the National Reserve into three classes is either necessary or opportune. All men who have been enrolled in it have, by the fact of their enrolment, signified their willingness to serve on emergency, in whatever capacity their services can best be made use of, and the division into classes must now, almost inevitably, lead to jealousies and discouragements which will prove detrimental to the force as a whole.

This division is laid down in the Regulations as follows:

Class I.—Officers and other ranks under 42 years of age who satisfy the medical requirements as to their physical fitness to join a combatant unit for service in the field at home or abroad.

Class II.—Officers, warrant officers, and sergeants under the age of 55, and rank and file under the age of 50, who satisfy the medical requirements as to their physical fitness to join a combatant unit for home defence, or for duty in fixed positions, or for administrative work at home.

Class III.—This class will consist of those who are unable to undertake any obligation, etc., etc.

"On reaching the limit of age for either Class I. or Class II., a National Reservist will be struck off the strength of that class; he may, however, voluntarily transfer his name to the next class."

The amount of fruitless labour involved in registering, medically examining and passing men *now*, who in a few months' time will be over the age limit or medically unfit, will be very great, and many a man rejected as *unfit now*, might be fit a few months hence. There are also many who, on the outbreak of war, would at once volunteer for active service, and could be medically examined and passed as fit in a few minutes, but will now hold back from registering themselves in Class I., either from family reasons, uncertainty as to future plans, or from natural shrinking from undertaking *now* an obligation which they may not at a future time be able to carry out, but yet would be ashamed to withdraw from at a time of crisis.

The undertaking is described in the Regulations as "an honourable obligation," but that exactly describes the obligation already undertaken by enrolment. Much unnecessary heartburning and discouragement must arise by the application of the age limit, and to tell a man who is in the prime of life, healthy, active, and willing, that his services are not required because he is 43, seems unreasonable.

The same arguments apply to Class II., though in a less degree; but to imagine that a man of 51 will be debarred from giving his services when the country is at war, and every trained man available is wanted, is quite unjustifiable.

The effect of the Regulations on those who are only eligible for Class III. will be gradually to eliminate them, for they are bound to feel that they are not wanted, whereas their services would be most useful in depôts, in training recruits, in quartermasters' stores, hospitals, etc.; and to nip their patriotic instincts in the bud now, will have a bad effect on the whole force.

In the War Office Circular Memorandum, dated March 21st, 1911, the following appears:—

"Experience has shown that many men are deterred from joining the Veteran Reserve if they are asked to undertake beforehand a binding engagement to come out for service in time of national emergency. To impose any such condition of liability would, in the opinion of the Army Council, be contrary to the conception underlying the formation of this Reserve."

The War Office would, in the writer's opinion, have been well advised to have left it at that.

The Question of Uniform.

The Regulations say :—

"Members of the National Reserve will not wear uniform in their capacity as members of this Reserve, but provision will be made for the uniform, arms, and equipment of every man whose services are accepted on mobilization."

They also say :—

"Local military authorities assist County Associations in giving the National Reserve a privileged position in the public life of the country. Its members will be officially recognized on national ceremonial occasions and at local military functions."

Again the Regulations say :—

"The National Reserve is supplementary to the Army."

Uniform for any military body is as great a necessity in time of peace as it is in time of war. The smartness, *éclat* and *esprit-de-corps* which the wearing of it engenders, and the influence which it has on men who might join, is considerable.

To ask men who have served for years in a smart regiment to attend national ceremonial occasions and local military functions in what, at the best, must often be shabby plain clothes, can scarcely be called giving them a privileged position in the public life of the country.

The issue of a neat distinctive uniform for ceremonial purposes is most desirable. The occasions of wearing it will not be so frequent as to wear it out quickly, and on mobilization the men should at once assemble in it, and, until drafted or detailed to their respective regiments, would be a military body commanding the respect of all who saw them, as in the case of men of the Royal Fleet Reserve, who keep their own uniforms.

The provision of active service dress, equipment and arms on joining their regiments is sound, and any further issue of full dress or walking-out dress would be unnecessary, as the appearance of a detachment in a regiment on parade in the National Service uniform would be an honour to it rather than the reverse. Complete uniformity is rarely to be found in these days, when officers, N.C.O.'s and men of other regiments or branches of the service are so often attached for special training.

Officers and N.C.O.'s in the National Reserve who have retired after long service, with permission to retain their rank and wear their uniform on retirement, should be encouraged to wear their uniform at musters and ceremonial parades, and in their case the provision or wearing of the distinctive National Service uniform should be optional, but the letters "N. R." should in such case be worn on the shoulder straps.

Officers.

The most serious omission from the Regulations is that of any mention of officers of battalions of National Reserve and of their duties.

It is most important that good officers should be attracted and encouraged to join, in order to organize and control the various units, to keep the men together, to assemble them occasionally to rub off the rust, and bring them up annually for inspection.

This whole question is left in a nebulous condition to County Associations, who frame their own rules and appoint (or acquiesce in the appointment of) officers to help them to carry them out.

In every other military body, whether Regular, Special Reserve, or Territorial, His Majesty's Commission is indispensable to the exercise of command, and in a force composed as the National Reserve is, with more than half of its strength consisting of ex-Regular soldiers from every branch of the Service (including ex-naval ratings), the officers' authority should be unquestioned and unquestionable, and the names of all officers when appointed should be entered in the Army List.

As matters now stand, the officers will, when mobilization is ordered, be ignored, and their men dispersed—those belonging to Class I. to be despatched direct by the County Associations to the regiments requiring them; and Class II. will be called up by the officer commanding the Territorial Force unit. By this means whatever advantage has been gained by organizing the National Reserve in battalions and companies will be thrown away; the officers who have taken the trouble to make themselves acquainted with the men and organize them in time of peace, will be put on one side at the very time their services would be most useful; and the staff of the County Associations and the officers commanding the Territorial regiments, when they are straining every nerve to get their units mobilized, will have to deal with a crowd of men about whom they know little or nothing. A much more sensible plan would be for each battalion of National Reserve to assemble as a military unit under its own officers at its own headquarters, or, if accommodation could be found, at the nearest regimental depôt, and for the officers to be responsible for making up drafts and despatching them to their respective regiments, retaining a nucleus for enrolling and drilling new comers—who will flock in immediately at a time of national danger—and, as these become fit, drafting them on as before.

Then will be the time for medical examinations to be made, and the National Reserve itself ought to contain sufficient ex-R.A.M.C. officers to make these examinations without calling on the already overburdened medical officers at the stations.

Financial Considerations.

The payment of additional grants of 10s. and 5s. respectively, in respect of men registered under Class I. and Class II.—not to the men themselves, but to the County

Associations—seems a very inequitable arrangement, and is not likely to produce much result.

In a very able article by the late General Sir E. P. Leach, V.C., which appeared in the January number of this JOURNAL, it was urged that a soldier who has served in the Army and Army Reserve, and who, whilst still in the prime of life, undertakes a further obligation for active service, would certainly be worth half the retaining fee paid to an Army Reservist, and that it would be only fair and just to give him such a fee in return for his undertaking.

It must be remembered that many of these men are very badly off, and can ill-afford to pay even train or tram fares for attending musters and inspections, and certainly cannot afford to supplement out of their own pockets whatever meagre allowances of ammunition may be given to enable them to keep up their shooting.

A retaining fee of half the amount should be given to men in Class II., and a much smaller sum than what is now proposed to be given to the County Association would suffice for clerical work and postages.

The retaining fees should only be paid to men who appear at inspection, or produce satisfactory evidence of their inability to attend, and, if uniform is given, it must be produced in good order, and the fee must be subject to deduction in any case where the uniform shows signs of ill-usage. A certain standard of proficiency in shooting should also be required before the fee is paid.

What about the Future?

The great value of the National Reserve is *now*, when trained men for home defence are lacking.

Universal training for the youth of this country must, the writer believes, come sooner or later, but even if it is adopted at once, several years must elapse before it has an appreciable influence.

There is no need to discuss here the question of compulsory service, or whether the voluntary system can be maintained, provided universal training is given, but experience has always shown (and is showing now in the very fact of the National Reserve's existence) that—given the training and the feeling of confidence which training imparts—there will never be any lack of volunteers for service in the ranks of the Regular Army or of the Home Defence Army.

In any case, however, compulsory universal training must come, and, when it comes, where are the instructors to be found more readily than in the ranks of the National Reserve, which contain at this moment the most magnificent material in the world, in the old N.C.O.'s who have retired with "exemplary" characters?

Employment in training the youth of this country would put a little much-needed money in their pockets, and in return

they would put some patriotic spirit into the lads, a quality which they so much lack at the present day.

The potentialities of the National Reserve are great. The numbers now on the roll are about 200,000, and Colonel Seely, in one of his recent speeches, estimated that there must be at least ten times that number of trained men in the country eligible for enrolment. General Leach showed in his article that in the county of Dorset half the men enrolled are ex-Regulars; in the unit commanded by the present writer, 63 per cent. are ex-Regulars. The statistics for the county of Surrey show that 65 per cent. of men enrolled are under 45 years of age, and this may be taken as a fair basis for calculation throughout the country.

If the desire expressed in the Regulations to give this force "a privileged position in the public life of the country" is carried out, its value in the day of necessity will be incalculable; but any attempt to utilize it to make good deficiencies in the Territorial Force, or as an excuse for further reducing Regular establishments, will be fatal to its existence.

It must never be forgotten that these men have done their job, and it is for the younger men now to do theirs. Should the day of dire necessity arrive, the men of the National Reserve, to whatever class they belong, are not likely to be found wanting.

(II.)

By COLONEL H. C. C. D. SIMPSON, C.M.G., late Royal Artillery.

IN the January number of the JOURNAL, appeared an article dealing with the above subject, in which the writer "desires to emphasize the potential value of the ex-Regular as a fighting man, and to indicate what he believes to be his legitimate position as a National Reservist."¹

Having had some experience in organizing a battalion of the National Reserve, I desire to make a few remarks on his suggestions.

The National Reserve is composed of various categories of officers and men—regulars and non-regulars—who at some time or other have performed some military or naval service under the Crown. The only branch which is not at present represented in its ranks is the Territorial Force, due to its having been in existence only five years, and from the fact that a T.F. man to be eligible for service in the National Reserve, must have served continuously for eight years in the Territorial Force or its Reserve. It may be said that upwards of three-fifths (115,000) of the registered members of the National

¹The National Reserve, by the late General Sir E. P. Leach, V.C., p. 102 of the JOURNAL for January, 1913.

Reserve have served in the Regular forces, and that probably at present about 70,000 of these are under 50 years of age.

The article referred to commences with some interesting remarks on the Royal Reserve and Garrison Regiments formed at the time of the South African War, and which may be said to have been the lineal descendants of the Veteran Battalions, which existed in this country at the time of the Peninsular War. Under present Regulations, their equivalent personnel, together with those of the old *Depôt* Battalions, the Militia, and the present Army Reserve, are likely to be found blended on mobilization in the ranks of the Special Reserve Battalions.

The writer then deals with what he believes to be the views of the War Office as to the future organization of the National Reserve. By the new Regulations it will be seen, however, that he was incorrect in stating that the intention of the military authorities is to relegate its members, even if ex-Regulars, entirely to home defence in the Territorial Force. Those who are under 42 and physically fit are considered suitable for general service; they are to be invited, up to a certain number, to undertake an honourable obligation to perform the same on emergency, and their clothing and equipment will be reserved at the usual places where are stored those of the Regular Army Reservists of units.

It is only ex-Regulars over 42 years of age, or who, being under that age, are not willing or fit to take up an obligation for general service, who will be relegated to purposes of home defence. Under the policy outlined in the article, it is suggested that ex-Regulars of the National Reserve should take the place of the existing Section D. Army Reserve, and that the service of a soldier should be extended up to 21 years. Now, it is not quite clear what advantage would accrue to the military system by the abolition of Section D., but it is quite obvious that soldiers at the present moment can extend their service to 21 years; thus, 12 years with the Colours and Section B. Army Reserve, four years with Section D. Army Reserve, concluding with four years in the Special Reserve—allowing a few months' "breather," if a man wishes for it, between each stage of his service—gives the total of 21 years' service proposed. Indeed, as a man, if he enlisted at 18 years, is only 39 years of age at the conclusion of the term referred to above, there are means, unnecessary to go into here, by which under certain circumstances he can remain in receipt of military remuneration for services performed up to 42 years of age, or 24 years' service in all. At 42 years of age he is considered physically unfit for service with the Expeditionary Force abroad, and is only reckoned a possible factor for purposes of home defence.

Now, an ex-Regular National Reservist is a man who has elected to fall out of the running at any one of the various stages referred to, and joined the National Reserve. The

inducement which the latter body offers to the average man to join is that, whereas in the Army Reserve he had found himself friendless and uncared for, he joins a National Reserve unit, where he finds himself amongst old friends, and realizes that he is a military entity once again. The social and military attractions, even sometimes the mastering of the changes in drill since he left the Colours, seem to appeal to the man at this stage of his existence more than when he was with the Colours, and the old habit and military spirit, grown fonder by absence, as it were, enter his soul again.

He, however, fully realizes that his National Reserve unit is but a peace unit, and that on an emergency he may have to join a war unit of one of the permanent field forces.

As regards training, he is prepared to accept instruction in the elementary drills of the branch of the service to which he belonged, and to practice rifle shooting and route-marching, but his civil occupation or other private reasons prevent his carrying out any camp training. The conditions of training laid down in the article under discussion, are quite unsuited to his circumstances, and are really more strenuous than those normally required of a man in the 1st class of the Army Reserve. The regulations for the Army Reserve lay down that "during the first year of service in the Reserve, men of Section B. will not be required to attend any training or drills, but after the expiration of that period, they may be called upon to perform either 12 days' training or 20 drills."

As a matter of fact, no doubt due to lack of funds, the training of the Army Reserve, especially in the case of cavalry and artillery, is not what it should be. Instances have come under the notice of the writer, in which N.C.O.'s have been for five years on the roll of the Army Reserve, without being called out for any training, and complained bitterly that they are in no way kept up-to-date in changes of drills, and, if mobilized, would be quite unable to instruct a squad of young soldiers in their exercises.

It would appear to be desirable that 50 per cent. of the N.C.O.'s and men of the Army Reserve who would be immediately required to complete units of the Expeditionary Force on mobilization, should be called up annually for eight days' training and attend the Army Manœuvres. In addition to keeping themselves efficient, they would become acquainted with the changes in their unit in drills, customs, and personnel, since quitting the Colours, and so shake down into their places more readily on mobilization; and it would then be possible at manœuvres for officers to realize something of the working of a battalion in the field with numbers approximating more nearly to war strength than is possible under present circumstances. By this arrangement a man in the Army Reserve would train every alternate year. At present he has practically less training than a man receives in the National Reserve.

The financial proposals of the article I do not intend to follow. The necessary automatic upward trend of the Army

Estimates, moreover, does not encourage one to suggest any which involve large expenditure. But even if a National Reservist, who accepts an obligation for General Service, is not paid a yearly wage, it is considered by many that he should at least receive a small bounty on joining, apart from any more handsome one that may be offered to him on mobilization. To a man facing poverty, as is, unfortunately, the normal state of many of the ex-Regulars, the bird in the hand is of considerably greater value than the proverbial two in the bush, especially when the bush may not be shaken in his time.

But I am sure that any attempt to convert the National Reserve ex-Regular into an Army Reserve man, as suggested in the article, would be fatal to the existence of the former body. Should there be any question of amalgamating any of our numerous, and perhaps rather confusing, various reserve organizations, the absorption of the unsuccessful Territorial Force Reserve, and the General Reserve of Officers into the National Reserve would have been a most desirable arrangement, and would keep the latter in touch with a military organization in peace.

But I frankly admit there is a reverse side of the picture in the National Reserve from the men's point of view.

Some misconception seems to exist as to the reasons which have induced so many men to register their names in this body. The truth is, that a large number of ex-Regulars originally joined the movement, under the belief that, if they came forward in sufficient numbers, they would eventually, in return for undertaking some legal liability, receive an annual retaining fee, and in the case of ex-Volunteers, that they would once more be enabled to put on that uniform, which, for various reasons, they had been compelled to throw off, on their old corps being converted to Territorials. Every member considered that on joining the National Reserve he, *ipso facto*, undertook an honourable obligation to serve on an emergency, otherwise, why did he join at all? They were prepared for the most part, as I have stated, to keep themselves up-to-date in elementary drills and rifle shooting, and they cannot see that the latest terms offered differ from the old, as regards the nature of the obligation they are to undertake, in that it can be cancelled at any moment by either party. Finding, therefore, that at the end of two-years no retaining fee or uniform in peace forms part of the agreement, many men have ceased to take any further interest in the movement, and cannot be traced at their registered addresses. Many are found to have been undesirable, some are dead, and others have left the country. From the total number registered, the fact remains that we ought to deduct from the paper strength about 12 per cent. in order to arrive at the actual available strength of the National Reserve at the present moment. This leaves about 170,000, of whom not more than three-fifths, under the present terms, or about 100,000, are under

50 years of age—the limit set by the authorities for any form of service by the rank and file on emergency. The Government are, however, calling for 135,000 Territorials (the present deficiency of that force, plus 25 per cent. of its full establishment), and an unknown number, say, 25,000, under 42 years of age for General Service, or a total of 160,000 men. Now, unless the 100,000 men who have left the Territorials, without joining the Territorial Force Reserve and are at present ineligible to join the National Reserve, are permitted to join Class II. of this latter body, the numbers required will not be obtainable. Moreover, even if they were, as the cost of the National Reserve for the year would be well over £55,000, and not more than about half that amount, apparently, is taken for that Force in the Annual Army Estimates, the military authorities must be well aware of this fact.

Another unpopular clause in the Regulations is the age at which officers and rank and file are ruled out from any form of service on emergency. To imply that an officer over 55 and a man over fifty are unfit for any form of even non-combatant service on emergency, when in the Balkan Armies they are in the first line, is incredible. It wipes out by a stroke of the pen two-fifths of the whole Force, and the fact is unnecessarily rubbed in by styling these unfortunate individuals "honorary members," whereby they consider they are most unnecessarily placed in a position of inferiority to the younger members, implying that they have not an equal voice with the others in the affairs of the National Reserve. The term "honorary member" should, therefore, be at once expunged from the new Regulations, and the age for non-combatant military service and service in aid of civil power remain as in the old Regulations. Finally, the fact that the Associations have to provide, out of the grants earned for them by the men, the medical officer's fee for examining for general service those members willing to undertake the liability, and also the absence of a small fee for the man himself, to compensate him for his loss of time and trouble, and possibly travelling expenses in undergoing the medical examination, are regarded by the men as rather paltry acts of meanness on the part of the Treasury. All grants earned by the men should go to the units.

In short, the question being asked by many of the members at the present moment is this: Do the military authorities take us seriously as a military asset or merely as a club (without giving us a club-house), and are they only willing to throw us such sopas as are unwillingly forced from them by the pressure of strong public opinion? It is for the Government to consider these questions seriously, or the National Reserve will melt away for any useful purpose, and the recommendations of the writer of the article I have referred to may prove, after all, to be the only method by which to secure the services of these men on emergency, so far as ex-Regulares are concerned, a result which would be regrettable.

NAVAL NOTES.

BRITISH EMPIRE.

APPOINTMENTS.—Surgeon-General W. May, C.B., to be Medical Director-General of the Navy, in succession to Surgeon-General Sir J. Porter, K.C.B., to date May 11th.

STATUS OF COMMISSIONED SHIPS.—Instructions have been given for the following nomenclature to be adopted as from May 1st for the description of the various categories of commission in which H.M. ships are maintained:—

The term *in full commission* is to be reserved for ships and vessels which carry full complements in time of peace. The term *in active commission* is to be applied to all ships and vessels not in full commission, but which carry "active complements." Without the issue of a Royal Proclamation calling out the Reserves, this term takes the place of what has hitherto been known as "in commission with nucleus crews." Such ships as can be completed to full crews with the Coastguard and the Immediate Reserve are included in the above, although they may not carry "active complements." The term *in reserve commission* is to be applied to all ships and vessels the mobilization of which in time of war or emergency involves the issue of a Royal Proclamation calling out the Reserves. This term takes the place of what has hitherto been known as "in commission with reduced crews."

SHIPS COMMISSIONED AND PAID OFF.—In connection with the redistribution of the Third Fleet ships, the cruisers "Aboukir" and "Sutlej," previously in the Home Fleets at Portsmouth and Devonport respectively, paid off and re-commissioned at Sheerness on April 15th and 11th respectively, with Chatham reduced nucleus crews for service in the Seventh Cruiser Squadron, Third Fleet, at the Nore. The battleships "Triumph" and "Glory" paid off and re-commissioned at Chatham on April 11th and 15th respectively, with new reduced nucleus crews for service in the Third Fleet at Devonport and Portsmouth respectively. The "Triumph" will be sent later to the China Station for commission in reserve at Hong Kong, and the "Glory" will have her crew completed to Second Fleet basis later for service in the Sixth Battle Squadron.

The battleship "Albemarle" is to pay off on May 15th and re-commission the following day with a Portsmouth nucleus crew for service in the Sixth Battle Squadron and as tender to the gunnery school "Excellent," relieving the battleship "Revenge," which will be paid off on May 14th into the material reserve.

Result of Gunlayers' Test with Heavy Guns in H.M. Fleet, 1912.

Their Lordships make no remarks as to the standard of shooting attained, simply notifying that the award of the medal will be promulgated in due course.

The Abstract of the firing for 1912 shows the Mediterranean Squadron first in order of merit, with H.M.S. "Yarmouth" as best ship with a score of 158.33 points, the average score being 108.130. The Australian Squadron takes the second place in the list with H.M.S. "Challenger" as best ship with a score of 148.48, the average score being 102.986; the third place in the order of merit being taken by the First Battle and Cruiser Squadrons with an average score of 99.602, H.M.S. "Superb" showing the highest score in the whole fleet, viz., 162.75, having made 31 direct hits out of 36 rounds fired.

Order of Merit.	Squadron or Fleet.	No. of Ships.	No. of Men Firing	Average Score.	First Ship in Fleet.	Score.
1	Mediterranean...	6	59	108.130	"Yarmouth" ...	158.33
2	Australian ...	3	39	102.986	"Challenger" ...	148.48
3	First Battle and Cruiser Squadrons }	14	136	99.602	"Superb" ...	162.75
4	East Indies ...	4	35	94.137	"Highflyer" ...	123.64
5	China ...	7	82	92.591	"Minotaur" ...	113.68
6	Second Battle and Cruiser Squadrons }	14	145	92.226	"Colossus" ...	120.75
7	Fourth Battle Squadron	4	64	83.377	"Cornwallis" ...	126.70
8	Third Battle and Cruiser Squadrons }	14	216	77.630	"Weymouth" ...	112.50
9	Cape of Good Hope ...	3	29	77.540	"Hermes" ...	94.54
10	Fifth Battle and Cruiser Squadrons }	14	202	76.152	"Prince of Wales" ...	101.14
11	Flotilla Cruisers ...	11	105	71.330	"Active" ...	108.33
12	Training Squadron & Attached Cruisers }	5	66	56.184	"Leviathan" ...	69.81
13	Special Service Tenders	16	54	52.194	"Bonaventure" ...	142.22
Total, 1912 Test ...		115	1,232	80.763		

NOTE.—The 4-inch guns of Dreadnought cruisers and battleships are not included in this Abstract.

The number of ships that fired was 115, as compared with 134 in 1911 and 127 in 1910. The number of guns was 1,510, as compared with 1,671 in 1911 and 1,522 in 1910. The number of ships from which no returns were received was 15, as compared with 19 in 1911 and 12 in 1910; while there were eight ships which fired under special conditions.

The number of rounds fired from the 13.5-inch was 126 with a percentage of hits of 58.0. The number of rounds fired from the 12-inch B.L. "King Edward VII." class and later was 607 with a percentage of 55.02 hits, and the number of rounds fired from the 12-inch in ships anterior to the "King Edward VII." was 141 with a percentage of hits of 35.5. The number of rounds fired from the 9.2-inch in two-gun turrets was 104 with a percentage of hits of 45.2; while the number fired from the 9.2-inch in single-gun turrets was 403 with a percentage of hits of 55.3. The number of rounds from the 7.5-inch B.L.II. was 251 with a percentage of hits of 52.2; while from the 7.5-inch B.L.I. 116 rounds were fired with a percentage of hits of 36.2. The number of rounds fired from the 6-inch B.L. XI. and the 6-inch B.L. VII. and VIII. was 386 and 2,104 respectively, with a percentage of hits of 50 and 49.65; and from the 6-inch Q.F. 231 with a percentage of hits 63.6; from the 4.7-inch Q.F.

396 rounds with a percentage of hits of 38.6 and from the 4-inch Q.F. and 4-inch B.L. 678 and 1,412 rounds respectively, with a percentage of hits of 42.04 and 38.5.

The class of gun thus which registered the highest percentage of hits to rounds fired was the 6-inch Q.F., with a percentage of 63.6; last year the highest percentage, also obtained with this class of gun, was 58.6; while in 1910 it was 63.3.

Result of Gunlayers' Test with Light Q.F. Guns in H.M. Fleet, 1912.

In the light Q.F. gun test the First Battle and Cruiser Squadrons came out first with an average score of 113.33, H.M.S. "Dreadnought" being first ship¹ with 113.33 points. Australia followed with an average score of 110.29, H.M.S. "Drake" heading the list with 117.55 points. China third with an average of 109.36, H.M.S. "Minotaur" heading the list with 127.50. Then come the Fourth Battle Squadron with 104.417, H.M.S. "Cornwallis" the first ship with 123.67; the East Indies with 103.747, H.M.S. "Perseus" first ship with 120.00; the Second Battle and Cruiser Squadrons with 94.712, H.M.S. "Warrior" first ship with 109.17; the Training Squadron and Attached Cruisers with 88.62, H.M.S. "Donegal" first ship with 114.07; the Mediterranean with 87.27, H.M.S. "Medea" first ship with 109.09; the Cape of Good Hope with 84.163, H.M.S. "Pandora" first ship with 103.33; the Flotilla Cruisers with 84.018, H.M.S. "Amethyst" first ship with 110.00; the Fifth Battle and Cruiser Squadrons with 79.884, H.M.S. "London" first ship with 93.33; Special Service Tenders with 77.70, H.M.S. "Bonaventure" first ship and first ship in fleet with 133.33; Third Battle and Cruiser Squadrons with 77.577, H.M.S. "Dominion" first ship with 93.61.

H.M.S. "Bonaventure" with her score of 133.33 points was thus first in order of merit as an individual ship, H.M.S. "Minotaur" with 127.50 being second and H.M.S. "Cornwallis" with 123.67 third. The number of ships that fired was 99, compared with 127 in 1911 and 110 in 1910. The percentage of hits to rounds was much higher in every class of gun than in 1911 and 1910. With 6- and 3-pounders, exclusive of Vickers, 1,387 rounds were fired, with a percentage of hits of 64.4; while with the 3-pounders, Vickers, 1,999 rounds were fired with a percentage of 78.22, compared with 41.8 in 1911 and 42.5 in 1910.

Gunlayers' Test from Destroyers and Torpedo Boats (Ex-Coastal).

The number of vessels that fired was 198, of which 168 were destroyers and 30 torpedo boats. The number of guns that fired was 871; the number of hits registered in scoring time being 2,139 and the number of misses 2,232, the percentage of direct hits to rounds fired being 48.94. In total times 2,486 hits were registered and 2,717 misses, the percentage of direct hits being 47.78. H.M.S. "Nautilus" was bracketed first in order of merit with one other ship in two classes, once with H.M.S. "Bulldog" in the 4-inch B.L. test and then with H.M.S. "Sandfly" in the 12-pounder 12-cwt. on P.V. and P.VI. mountings test. H.M. ships "Dee," "Dove," "Vixen," "Whiting" and "Avon" were also bracketed together with a first place in the 12-pounder 12-cwt. on P.I.

¹ H.M.S. "Dreadnought" was the only ship that fired.

mountings test; and the highest average hits with the 12-pounder 8-cwt. gun and the 6-pounder with telescopic sights were registered by H.M. ships "Swale" and "Vigilant" respectively.

IMPERIAL COMMISSIONS.—It is announced in the Commonwealth Navy Orders for February 28th, 1913, that it is intended in future that all British naval officers, whether belonging to the Royal Navy or the Permanent Naval Forces of the self-governing British Dominions, shall receive "Imperial" commissions. These commissions, whether issued by the British Admiralty, or by the Dominion Governments, will be of one form extending to service in all the Naval Forces of the Crown, including the Royal Navy and any Dominion Fleet. It will, therefore, be unnecessary for temporary commissions to be granted by the Admiralty to officers of a Dominion Naval Force detached for service in the Royal Navy, or by a Dominion Government to officers of the Royal Navy detached for service in a Dominion Naval Force.

The effect of granting to Dominion officers the same commission as is held by officers of the Royal Navy, will be not only to give them the same rank and precedence as naval officers of the Home Forces, but will also command for Dominion ships of war the same interchange of courtesies and international respect as are shown to vessels of the Royal Navy in foreign waters.

FRANCE.

THE BATTLESHIPS OF 1913.—In accordance with the building programme four battleships are to be laid down during this year. They have received the names of "Normandie," "Flandre," "Languedoc," and "Gascogne." Their dimensions are believed to be as follows: Length, 574 feet; beam, 91 feet 10 inches; draught, 30 feet, with a displacement of 25,200 tons; they are thus nearly 2,000 tons larger than their predecessors of the "Paris" type. The armament is to consist of twelve 13.5-inch guns in three quadruple turrets and twenty-four 5.5-inch Q.F. guns.

The French authorities are evidently taking a very bold step in deciding to mount 12 big guns (13.5-inch) in three quadruple turrets in the ships which are to be laid down this year. M. Doyère, the chief constructor, appears to have recognized a certain unwisdom in taking tentative steps to advance from two guns to three and then to four, and the Technical Section of the Department of Naval Construction, which is not responsible for the decision, has prepared all the plans with rapidity, though it is reported to be ill provided with officers for its exacting and important work. There will be one turret forward, another amidships, and the third abaft, and the whole 12 guns will fire on either broadside. It is estimated that the weight of the 12 heavier guns and their mountings will be equal approximately to that of the ten guns of the "Bretagne," "Provence" and "Lorraine" in five turrets, and from this point of view the advantage of the new design is conspicuous.

All guns fire on the broadside, and the area of fire of the centre turret is greater than in vessels with five turrets because a greater clear space around it on the deck has been provided.

There are certainly many officers who fear the effect of the concussion which will result from the firing of the whole broadside at one time, or, if the 12 guns should not be fired together, from the concussion of one discharge synchronizing with the vibration caused by its predecessor.

It is also a source of regret that the proposed secondary or anti-torpedo armament is the same as in the preceding ships, though in other navies the 6-inch has been adopted.

It is stated that the guns will be so fitted that but two can be fired at the same instant. There was great opposition to these turrets. The risk run that one lucky shot would put out of action four heavy guns seemed ever present, but not great enough to prevent adopting the four-gun turret. The secondary armament will consist of five 5-inch Q.F. guns.

The turrets in plan are an irregular ellipse, and will be protected by 18-inch armour, while the belt amidships will be 12.8 inches thick. The interior is 31.8 feet both ways. There is fitted special protection of armoured double under-water compartments against mines and torpedoes.

These vessels should thus be practically unsinkable. A new Frahm system to minimize rolling has been adopted.

Steam is to be generated by Normand-Sigaudy boilers, and with a view to economy and also to adding to the practical radius of action, two reciprocating engines will combine with two turbines of the Parsons type to produce an estimated speed on trial of 22 knots.

United States Naval Institute Proceedings, from Le Yacht.

Some further details of the "Paris," "France," "Jean Bart" and "Courbet" have been given. These ships have been designed by M. Lyasse and they are to be completed within three years of the signing of the contract. Their dimensions are to be as follows: Length, 541.2 feet; beam, 88.56 feet; mean draught, 29.03 feet; full-load displacement, 23,467 tons; maximum horse-power, 26,000, giving an estimated speed of 20 knots.

Steam is to be generated in 24 Belleville boilers, which will work at a pressure of 256 pounds to the square inch. These are divided into two groups. That forward occupies three consecutive compartments, and is separated by the dynamo compartment from the aft group, which only occupies one compartment. The boilers are arranged in six transverse ranges, each range made up of four units. There are four furnaces to each boiler, and they are arranged to burn either coal or liquid fuel, both under natural and forced draught. The liquid fuel burners are to be of the Delaunay-Belleville type, and there will be three funnels.

The propelling machinery is being built by the Chantiers de la Seyne. The four propellers will be driven by two symmetrical groups of Parsons' type turbines. In each case an inner shaft is driven by a low-pressure ahead-and-astern turbine, and a wing shaft by a high-pressure ahead-and-astern turbine. Each group is entirely independent of the other. The turbines are arranged in three divisions of one transverse compartment. A high-pressure turbine is in each of the two side divisions, the centre division holding the two low-pressure turbines. The low-pressure turbines are of the pure reaction type, and live steam can, if required, be supplied to them so that the inner propellers only may be worked.

Each high-pressure turbine has two impulse wheels with velocity stages—one wheel for ahead and one for astern working—in front of the reaction portion. This arrangement has been adopted in order to avoid having cruising turbines, which have not given the results anticipated from them from the points of view of upkeep and economy in working. The impulse wheels are always in operation when the high-pressure turbines

are in use, and the speed is regulated by the opening and closing of a series of adjustable nozzles. Moderate speeds can, therefore, be attained with a reduced quantity of steam in a way that is now well recognized. By this method the whole of the turbines can be kept at work, and the objectionable results attendant on alternate heating up and cooling avoided.

The system of protection of the "Paris" at the water-line is similar to that of the battleships of the "Patrie" class, that is, there is a cellular caisson with a protective deck at the top and bottom, the lower protective deck sloping upwards from the side. There is also an armour belt joining the two protective decks, and immediately behind the belt there is a cofferdam which is divided up into numerous compartments. A special feature of the protection of the "Paris" is its citadel. In order to give a sufficiently commanding position to the 6-inch battery, 18 of these guns have been placed in a central redoubt on the gun-deck. That the design might not be defective in leaving this redoubt exposed to shells fired into the zone between the upper protective deck and the gun-deck as in the "Charlemagne," the armouring of the redoubt in the "Paris" has been taken down to the level of the upper edge of the main belt. This arrangement has the further advantage that for the whole depth of the two 'tween decks, the funnels, the ventilation ducts, and the other important parts of the superstructure situated in the midships portion of the vessel, are likewise protected. A second redoubt is situated aft on the upper protective deck to shelter the remaining 6-inch guns. The greatest thickness of the main armour belt is 9.84 inches. There is also an armoured bulkhead abaft the cellular caisson.

United States Naval Institute Proceedings, from Engineer.

RUSSIA.

THE BUILDING PROGRAMME.—It is proposed to spend £24,500,000 upon the Navy during the year, which will include £7,400,000 for the new programme, £1,920,000 for completing the four battleships of the "Gangut" class, £3,000,000 for the ships building for the Black Sea, and £1,000,000 for new plant and improvements at the Admiralty and Baltic Yards, where the four new battle-cruisers are to be constructed.

Slow progress is being made with the four 23,000-ton battleships in the Baltic and the three other slightly smaller battleships for the Black Sea, which were begun in October, 1911, but are not expected to be completed before 1916. On December 19th last, the four battle-cruisers, voted last by the Duma, were laid down at St. Petersburg, two at Galernii Island, and two at the Baltic Yard; these form part of the comprehensive programme which has been adopted for the immediate strengthening of the Baltic Fleet. These vessels, so it is reported, are to have a displacement of 30,000 tons, to have a speed of 27 knots and carry nine 14-inch guns. It is estimated that each ship will cost four and a-half millions sterling, owing to the present conditions existing in Russia, which represents about £150 per ton. They are to be named the "Borodino," "Navarino," "Ismailia," and "Kinburn."

THE RUSSIAN FLAG.—Owing to prevailing confusion about the Russian National colours, a Commission was appointed in 1910 to consider the subject and last year they reported their decision.

1. The Russian Imperial National colours are black—yellow—white. These colours serve for the National flags, the Imperial standard and

broad pennants, and will be used for flags of Commanders-in-Chief and diplomatic representatives abroad. These colours will be used for all army flags, and all cockades, sashes, sword knots and shoulder knots will combine these colours, black—yellow—white. All Government property, sentry boxes, etc., will be marked by these colours.

2. The Navy will continue to use the flag adopted by the founder in memorial of Peter the Great, a white flag with a blue St. Andrew's cross.

3. The white—blue—red flag, adopted by Peter the Great for the Russian merchant marine, will be allowed to fly on the vessels of inland waters and on those belonging to members of the Imperial family. These colours may also be used by private citizens with the National colours, black—yellow—white, for decorative purposes.

The report of the Commission essentially emphasized the Russian National colours and merely curtailed the use of the white—blue—red flag.

THE TRIALS OF THE "NOVIK."—The new Russian destroyer "Novik" made 34 knots on her trials last December. The vessel, which is 336 feet long by 31 feet 6 inches beam, is of 1,280 tons displacement; she was built at the Putiloff Works, St. Petersburg; the machinery consists of A.E.G. turbines and oil-fired boilers, supplied by the Vulcan Company of Stettin, the designed speed being 35 knots with 36,000 shaft horse-power. The vessel was paid for by a national subscription and it was hoped that she would answer all requirements. It was a condition of the subscription that the vessel must be built in a Russian yard. After her trials she has now been rejected by the Admiralty. The contract speed of 34 knots was not obtained by a sufficiently large margin, and during the trials all the boilers were injured and will have to be replaced. Such clouds of smoke and torching were apparent that for this reason alone the vessel showed herself as not fit for the fleet. The vibration of the hull was excessive. The case of the "Novik" would seem to show that the Russian shipyards are not yet capable of turning out the best work.

United States Naval Institute Proceedings, from Revue Internationale Ueber Gesamten Armeen und Flotten.

UNITED STATES.

NEED OF NAVY PERSONNEL LEGISLATION.—Mr. Meyer, the Secretary for the Navy, has addressed the following letter to the Chairman of the House Committee on Naval Affairs:—

"Navy Department, Washington, February 8th, 1913.

"Dear Mr. Chairman,

"I have the honour to invite your special attention to the urgent need for Naval personnel legislation, than which no matter is of more pressing importance to the Navy.

"The existing law relating to officers is lacking in vital features. It does not provide commissioned personnel in numbers proportionate to the size of the fleet. It does not distribute officers among the several grades in the proportions required for efficiency. It fails to bring any officers to flag rank early enough to master the great responsibility of a fleet command. It provides officers inadequate in number. Its operation is uneconomical. The shortage in total number will be made up satisfactorily by continuing in force the present law for the appointment

of midshipmen, as already recommended in a separate letter. But this alone will not remedy the situation.

"Prior to 1899 line officers served about 34 years in the grades below commander, leaving about 12 years altogether for command of ships as commander and captain, and as flag officer in command of squadrons. The Personnel Act of that year has so changed these proportions that officers have recently become commanders after 24 years' service; but subsequent legislation, largely increasing the total numbers of officers, and modifying the original Act, has made it inadequate to meet present and future conditions. Present law will furnish a total of 2,486 commissioned line officers by July, 1916. The following comparison shows how these should be proportioned in the various grades to meet the requirements of the Service, and how differently the law now in force would distribute them:—

	Grades above Lieutenant.	Senior Lieutenants.	Junior Lieuts. and Ensigns.
To meet service requirements	736	950	800
By operation of existing law	400	350	1,736

"Of the 1,736 in the lowest two grades, over 1,100 would be junior lieutenants, and at the rate of promotion now provided an officer would be 16 years in that grade. He could not become a commander under 58, leaving only four years before retirement for service as commander and captain and as a flag officer in command of a fleet.

"The Personnel Act has brought about a condition below the grade of captain where age, grade and length of service are approximately as they should be for efficiency and economy. To descend now to a stagnation more fatal to incentive than ever before would not only throw away the improvement gained in 14 years, but make recovery slow, exceedingly difficult and costly. Yet such a condition is rapidly forming and will actually exist within four years unless there be remedial legislation.

"That the certainty of this is already recognized has been unmistakably indicated. Twenty-two young officers resigned their commissions last year, and in the six weeks since January 1st, 1913, eight more resignations have been received. With every year's postponement of relief conditions will grow worse, and resignation of officers soon after completing their education at Government expense may be expected in large numbers. The economic loss here is too apparent to dwell upon. The younger officers find that the Naval service is more exacting and arduous than formerly, especially in longer time at sea, and that present conditions do not offer them a fair, or attractive career.

"No remedy short of a comprehensive measure will be adequate. The proposed Personnel Bill now before your Committee, drafted after long and careful study, is the scientific and logical disposition of the whole personnel question. It has been considered from all points of view, both foreign and our own, and affords a safe and sane solution of the problem, which every nation possessing a navy must face and which to us is of extreme urgency.

"The present organization of the personnel is not economical nor suited to requirements, even in time of peace. The proposed Bill would

make it so, greatly improving the efficiency of the Navy at all times, without increase of cost.

"Faithfully yours,

"G. V. L. MEYER."

GENERAL.

BATTLE-CRUISERS.—At present there is much doubt as to whether the "Moltkes" and "Lions" carry sufficient fuel to enable them to use their high speed in the battle line. Their steaming radius at low speeds is low, and hence the force of the argument that they can engage where and when they will in action probably does not apply. Cruising at uneconomical speeds with the battleships prior to the battle will have utterly depleted their fuel supply. Thus they, at least those at present built, can only perform the duty of being a flexible unit of the fleet in battle. From the result of the "Moltke's" cruise to the United States it developed that, if she were to accompany a fleet, when the day of battle came, she would not have sufficient fuel to allow her to be even the flexible arm. It is difficult to believe that the "Moltke" class can be considered in any other light than failures. The "Blücher" has been the only great success in the all big-gun cruiser type, and she carries but 8-inch guns. The low freeboard aft of the "Moltke" is a serious drawback on the high sea. As accounts of her state that her deadwood forward and abaft the rudder is cut away to give her great manœuvring power, she must be a very bad roller at sea, as has, indeed, proved to be the case. The English "Orion" class has the same defect. The contour of the "Moltke's" bow gives one the impression that she must pitch heavily and deeply. So far a proper type of battle-cruiser has not been evolved. If we have great speed, we must have large boiler and engine rooms, and consequently the armour must be light, especially as the steaming radius should logically be very great. The last requirement is difficult with high-speed turbines, and the "Moltke" proved herself a huge fuel consumer on her run across the Atlantic. How some of the requirements put limits on what the vessel can do is shown in the following extract from an article by Naval Constructor D. W. Taylor, U.S.N., in the *Journal of the Franklin Institute* :—

Ratio of Speed to Length.—The influence of length upon speed is sometimes enormous and always important. If we assume that we could put a maximum of 70,000 h.p. into a vessel, which is somewhere near the truth, if she were made 500 feet long the speed would be 21 knots, whereas if she were made 800 feet long the speed would be 28 knots.

It is doubtful if sufficient length and space could be given to machinery in a 500-foot vessel to enable 70,000 h.p. to be developed; probably it would not be possible to drive such a vessel over 21 knots, owing to limitation of space for machinery.

Assuming, for the present, that we could get 70,000 h.p. into each vessel, the weight of machinery would be approximately the same, regardless of the length of the vessel; but to build a 30,000-ton vessel 800 feet long would take a very much greater weight of hull than to build a 30,000-ton vessel 500 feet long. This additional weight of hull would have to come from the armour or armament, the 30,000 tons of displacement being fixed. Moreover, the thickness of armour protection for a given weight which could be placed on an 800-foot vessel would be very much less than for the same weight applied to a 500-foot vessel.

It is evident, then, that the penalty paid for speed, besides the direct weight necessary to provide for machinery, is the additional weight of hull

necessary to provide a vessel of the length and form to enable it to be driven at the higher speed, and, superposed upon this, the diminution of the armour thickness, or the restriction of the area of the ship protected by armour resulting from the greater length to be protected. The solution of the problem of speed is then obviously a compromise between conflicting considerations, as is the case of so many other problems of warship design.

United States Naval Institute Proceedings.

MILITARY NOTES.

BRITISH EMPIRE.

REVIEW OF THE BRIGADE OF GUARDS BY THE KING.

On April 28th His Majesty the King reviewed the Brigade of Guards in Hyde Park. The King was accompanied by the Queen, Princess Mary, the Duke of Connaught, Colonel of the Grenadier Guards, and Prince Arthur of Connaught; Field-Marshal Lord Methuen, Colonel of the Scots Guards; Field-Marshal Lord Roberts, Colonel of the Irish Guards; General Sir John French, Chief of the Imperial General Staff, and ten of the foreign military attachés.

The four regiments of the Brigade were formed up on parade in order of seniority, as follows: Grenadier Guards on the right; Coldstream Guards on the left; Scots Guards on the right centre; Irish Guards on the left centre. An interesting feature of the parade was the presence of strong contingents of Army Reservists and National Reservists, who attended at their own expense, as regards time and money, there being no public funds from which they could be reimbursed. The total number of all ranks appearing in the parade state was 7,418, made up as shown below. A good many more reserve officers, however, attended than are actually shown.

The troops were under the command of Major-General Sir A. E. Codrington, K.C.V.O., C.B.

	With the Colours.				Army Reservists.				National Reservists.	
	Total Strength.		On Parade.		Total Strength.		On Parade.		On Parade.	
	Officers.	Other ranks.	Officers.	Other ranks.	Officers.	Other ranks.	Officers.	Other ranks.	Officers.	Other ranks.
Grenadier Guards ...	87	2,225	72	1,692	—	3,186	—	250	20	300
Coldstream Guards ...	90	2,234	75	1,727	—	2,608	—	347	1	220
Scots Guards	60	1,548	55	1,341	—	1,773	—	220	7	200
Irish Guards	25	980	25	848	—	1,248	—	9	1	2
Grand Total.	262	6,987	227	5,608	—	8,815	6	826	29	722
							1,583			

After the King had concluded his inspection, the Brigade marched past first in column of double companies—the Grenadier Guards, Scots Guards and Irish Guards being led past by their respective Colonels—then in mass, and, finally, by regiments in line of quarter columns. After the advance in review order, in which the Army Reservists and National Reservists took part, Sir A. Codrington called for three cheers for His Majesty, which were enthusiastically given.

At the conclusion of the parade His Majesty addressed the commanding officers in the following words:—

“ Sir Alfred Codrington,—Only twice during the last 60 years have the Brigade of Guards been assembled together on parade, and it has given me the greatest pleasure to inspect to-day the four regiments of my Guards, and to see them led past by their respective Colonels. I desire to express to you my entire satisfaction with the smart appearance and steadiness under arms of all ranks. I do, indeed, feel proud to be Colonel-in-Chief of such a splendid body of men. It is very gratifying to see so strong a muster of the Army Reserve and of the National Reserve of the four regiments. Their readiness to be present at parade on this occasion is a proof of that spirit of comradeship which unites the Guardsmen in a common zeal to preserve and uphold the glorious traditions handed down to them.”

Major-General Sir A. E. Codrington replied as follows:—

“ May it please your Majesty,—We, the officers, warrant officers, non-commissioned officers, and men of the Brigade of Guards humbly and gratefully thank your Majesty for the signal honour conferred upon us this day by your Majesty’s inspection and review of the Brigade and for your Majesty’s gracious speech. We do not forget the glorious traditions handed down to us, and we beg your Majesty to accept the assurances of our loyalty to you as our King, our affection for you as our Colonel-in-Chief, and our readiness, if need be, to sacrifice our lives in the service of our Sovereign and our country.”

His Majesty halted at Hyde Park Corner on his way back to Buckingham Palace, and the Brigade marched past him in column of fours, the reservists being placed at the head of their respective regiments.

PROMOTIONS AND RETIREMENT.—The following are the principal promotions and retirement for April:—

Promotions: Colonel (temporary Brig.-General) T. L. N. Morland, C.B., D.S.O., commanding 2nd Infantry Brigade, to Major-General, vice C. W. Park, C.B., deceased, March 30th; Colonel (temporary Brig.-General) F. W. B. Landon, C.B., Director of Transport and Movements at the War Office, to Major-General, vice C. A. Hadfield, April 1st.

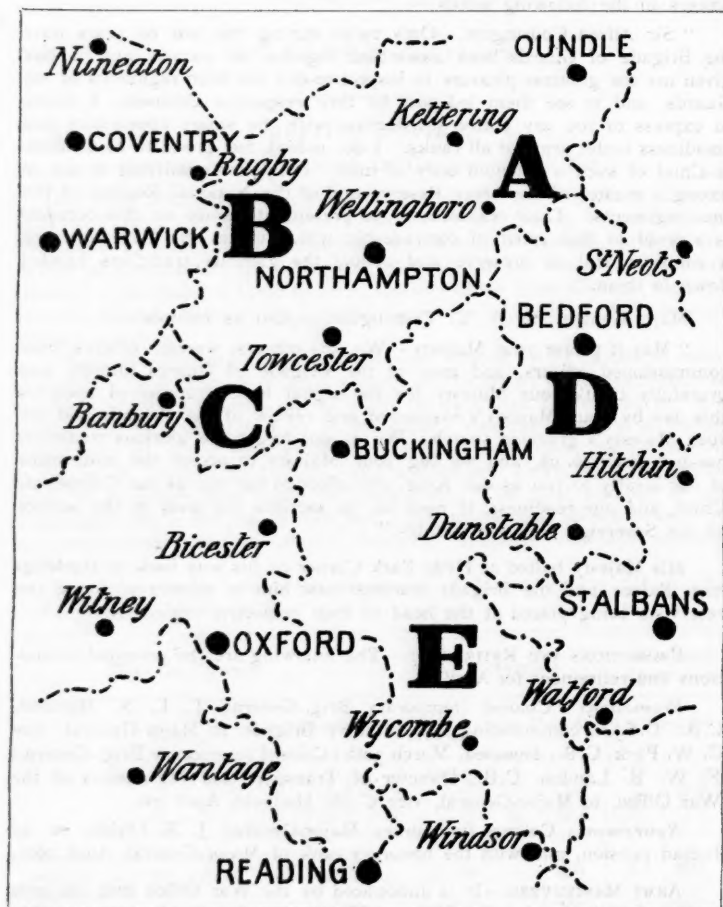
Retirement: Colonel (temporary Major-General) J. E. Dickie, on an Indian pension, and with the honorary rank of Major-General, April 26th.

ARMY MANŒUVRES.—It is announced by the War Office that the area to be scheduled under the Military Manœuvres Act this year is roughly the country within the rectangle Oundle—Coventry—Reading—St. Albans.

The troops comprised in the Aldershot Command will carry out divisional and command exercises under Lieut.-General Sir D. Haig, during the second and third week of September in the Southern portion of the above area.

The East Central portion of the area will be allotted during the first three weeks of September to the 4th Division, commanded by Major-General T. D'O. Snow, for brigade and divisional training, while the West Central portion will be at the disposal of Major-General Sir H. Rawlinson, G.O.C. 3rd Division, for a divisional exercise from about September 10th to 20th in which the 2nd Cavalry Brigade from Tidworth will also take part.

THE MANOEUVRE AREA.



A=Territorial Troops.
B=4th Cavalry Brigade.

C=3rd Division
D=4th do.

E=1st and 2nd
Divisions.

The 4th Cavalry Brigade will carry out brigade training in the area Coventry—Banbury—Weedon—Rugby, during the first fortnight of September, subsequently joining the 4th Division.

The Northern portion of the manœuvre area will be occupied during the third week of September by certain units of the Territorial Force which will undergo the first week of their annual training there prior to taking part in the Army Tactical Exercise, which will, this year, constitute the final phase of collective training.

For this exercise a force of four divisions and a cavalry division will be assembled in the Chilterns under the command of General Sir J. French, and will operate during the fourth week of September in a northerly direction under a general idea which will be published in due course.

NATIONAL DEFENCE.—The following remarks were made by Sir John French on April 24th, when responding to the toast of the Imperial Forces of the Crown at the annual dinner of the London Chamber of Commerce:—

" . . . We have heard a great deal, lately, about invasion and raids which may be attempted against us during the first few weeks, or even days of war. I think I remember some years ago a very distinguished admiral, speaking either at the Mansion House or the Guildhall, who told the citizens of London they might sleep comfortably in their beds because an invasion was an impossibility. I have indeed a faint idea that something was said about the naval barrier being so strong as to preclude the landing of even a dinghy-load of men. Well, whatever was thought then, it is deemed advisable now to reconsider the whole question, and a sub-committee of the Defence Committee is now sitting for that purpose. There the matter must rest until the deliberations of the Committee are concluded and until the Prime Minister thinks fit to announce the result.

" For reasons which I am unable to fathom or understand, the question of our military needs seems to be centred altogether on this problem of raids and invasions, for one often hears the opinion expressed that, if we have no fear of invasion, why do we want an Army at all? I can only refer the people who make that reply to the history of their own country. Have they needed an Army in the past? Is it not a fact that the condition in which the British Empire stands to-day has been largely due to the existence of an Army? Did we want an Army in the days of Marlborough or in the time of the Peninsula? Was the Battle of Waterloo fought and won by a British Army or not? Did we want an Army in the Crimea, in India, in Egypt, or in South Africa? Whatever may happen in the opening phases of a war in the way of raids or invasions, it is quite certain that something very serious to the interests of this country will occur at the end of it if, through our own neglect, any of the great land frontiers of the Empire have been overrun by hostile troops because we have been unable to support them, or if, in consequence of such action, panics in our Colonies have drawn away our fleets from their proper rôle, which is to remain concentrated at the decisive point of naval danger. One cannot too often insist upon the principle that the science of war is no exact science. Everything is possible. Were we to attempt to provide against every conceivable possibility we should live in an armed camp and the progress of civilization would be stopped. After carefully reviewing any given situation, we can only deal with reasonable probabilities. Bearing this in mind, invasion of these islands should not be our

¹ Report from the *Times* of April 25, 1913.

chief or our only apprehension. Our attention should be fixed upon perfecting the forces which are necessary to secure our Imperial and world-wide interests all over the world. It is for the nation, for Parliament, for the Cabinet, to settle the policy of this country, and when this is done it is for the sailor and the soldier to estimate the force required to carry out that policy. . . . I think there can be no doubt that, with Europe and indeed the world in its present temper, our responsibilities are more likely to increase than to decrease. We have to prepare for this, and I am sure we are also agreed that policy and strategy become more interwoven day by day and more interdependent year by year. In a leading article in *The Times* a few weeks ago the General Staff was severely criticized and accused of being 'obsessed with one idea.' Would that there were only one idea! The difficulty which British strategists have to face lies in the multitude and complexity of the problems presented for solution when we consider all the possible dangers which may threaten the various parts of our world-wide Empire. We of the General Staff are doing our best to find adequate solutions of these great Imperial problems, but we naturally, and I think rightly, give most attention at any one moment to that particular danger-point which appears most threatening without, however, by any means neglecting those which we consider more remote. That special danger-point constantly changes. It is sometimes in one portion of the globe and sometimes in another, and it is upon such problems that we concentrate our chief energies.

"In conclusion, I would urge upon you the necessity, in considering our military requirements, to take the widest and most comprehensive view of our responsibilities in all parts of our great Empire. . . ."

India.

THE MILITARY BUDGET.—The net military expenditure in India for 1912-13 under military heads was £19,635,400. The Budget Estimate for 1913-14 is £19,646,800. Among the special services provided for in this estimate are a continuance of the arms traffic operations in the Persian Gulf, expenditure in connection with working parties on the North-Eastern Frontier, the inception of military aviation, re-armament of artillery, acquisition of land for a new cantonment at Delhi in connection with the change of capital, and to meet National Insurance Act liabilities.

NORTH-WEST FRONTIER.—While the political agent, Tochi Valley, was holding a Durbar on April 5th at Spinwam a quarrel arose between two parties of Waziris; it developed into an attack on the fort, which was beaten off. In view of the threatening aspect of affairs and excitement raised, the Kohat and Bannu movable columns moved out, slight opposition being encountered by the latter in relieving Spinwam. Reports indicate that the outbreak was quite unpremeditated.

There has since been some sniping at two or three posts—probably the work of outlaws from Khost—and a party of the North Waziristan Militia had a skirmish near Spina Khaisora. The situation, however, was improving and further trouble was not expected.

A patrol of the South Waziristan Militia had a smart skirmish with a band of Mahsud raiders near the entrance to the Gomal, killing three and capturing three of the band.

CENTRAL INDIA HORSE.—The Central India Horse and the infantry detachment left Shiraz on April 6th. They arrived at Bushire without incident on the 16th idem and embarked for India.

AUSTRIA-HUNGARY.

PEACE ESTABLISHMENT.—The establishment for the future in Galicia will be 150 men per company. As the normal recruit contingent cannot provide this increase, it is proposed to call out a series of reservists for annual training until the matter can be put on a permanent basis. For this purpose *Ersatz* reservists have already been summoned earlier in the year than is usually the case. An attempt to increase the recruit contingent is being made.

ARTILLERY ORGANIZATION.—The artillery re-organization is being hastened. A sixth battery per division is on the verge of issue. The divisional artillery, exclusive of howitzers, will then consist of 36 guns. Corps mountain artillery regiments are being formed which will give 24 guns and 12 howitzer guns per army corps. The heavy artillery has already been increased to eight guns per army corps.

INCREASE IN THE ARMY.—The following increases have recently taken place in the Austro-Hungarian Army:—

(a) In the Austrian *Landwehr* eight, and in the Hungarian *Landwehr* 26, additional field gun batteries have been created. An eighth battalion and three draught detachments have been formed for the siege artillery. The deficiency of artillery officers consequent on these increases has been severely felt, and extraordinary measures have had to be taken to remedy this.

(b) Two new cavalry divisions have been formed from the ten *Honved* hussar regiments, with Headquarters at Budapesth and Szegedin.

(c) Four new regiments (three battalions each) of Hungarian *Landwehr* Infantry have been raised. The whole of the Hungarian *Landwehr* has been consequently reorganized and an additional division formed with Headquarters at Budapesth, making 49 divisions in all.

The Press reports that four new Feld Jäger battalions are to be raised at once, complete with machine-gun detachments.

When the new increase of the recruit contingent is sanctioned, it is proposed to raise the peace establishment of infantry companies to 160 each.

A Government gun factory is to be erected at Paab, the firms of Krupp and Skoda assisting to raise a capital of ten million krone. 5,000 men will be employed.

BELGIUM.

ANNUAL CONTINGENT.—On March 15th the Chamber passed a Government Bill increasing the numbers of the 1913 contingent from 19,000 to 30,000.

REORGANIZATION OF ENGINEERS.—A Royal Decree, taking effect from April 1st, has been published, reorganizing the engineer arm, which will now consist of:—

An Army Inspection; three fortress engineer commands (Antwerp, Liège and Namur); one regiment of one field and one fortress battalion, and two reserve fortress battalions; two independent fortress battalions (Liège and Namur); five special companies (telegraph, artificers and torpedo, railway, pontoon, aeronautical).

A Royal Decree of March 18th instituted an advisory committee for military aeronautics, composed of three military and three civil members, nominated by the War Minister.

MILITARY ATTACHÉS.—The Belgian Government has decided to appoint military attachés at London, Paris and Berlin.

Belgian Congo.

COMMUNICATIONS.—The Kabalo—Tanganyika railway is expected to reach the lake about the beginning of 1914, and a scheme for the construction of the terminal harbour on the lake is under consideration.

Tenders are invited for the construction of a port at Kinshasa on the Congo near Leopoldville. An expenditure of about £80,000 is involved.

CHINA.

The *Morning Post* of March 4th stated that Mr. Larsen, a Swedish missionary had been appointed to the post of adviser to the Chinese Government on Tibetan and Mongolian affairs.

MONGOLIA.—The special correspondent of the *Times* in Peking reported that it was officially stated that China intended to restore order in Inner Mongolia, where roving bands of Mongols and also outlaws were terrorizing the inhabitants, while Mongolian troops were gradually encroaching towards Peking.

Colonel Brissaud Desmillets, the French military adviser to the Chinese Government, ridicules the idea of the Chinese attacking Urga, of which, he says, there is no intention. He also declares that the idea is a sheer impossibility owing to transport difficulties. Defensive measures are, however, essential against the Mongol raiders, whom the Mongol troops follow; otherwise it is probable that the Mongols will eventually reach Kalgan, about 125 miles from Peking, and on the railway which is eventually to link up Peking with Urga.

DENMARK.

NATIONAL DEFENCE.—Subscriptions are being collected to provide an additional fort for the Copenhagen land defences. It is stated in the Press that £25,500 has been received, and that the work would cost about £27,700.

MOVEMENT OF TROOPS.—A report in the Press stated that ten battalions of infantry were to be moved from Jutland and Funen to Zeeland on account of the political situation.

FRANCE (*Events in March, 1913*).

THREE YEARS' BILL.—A Bill was submitted to the French Parliament for the extension of Colour service in the Army from two to three years. This is the proposed French answer to the new German Army increases. The chief provisions of the Bill were as follows:—

- (1) Every Frenchman shall serve for three years in the active Army instead of for two years.
- (2) Seven years service in the Territorial Army instead of six years and seven years service in the Territorial Reserve instead of six years, making the total period for which liability for military service exists 28 years instead of 25 years.

- (3) The creation of a military commission which will assist the *Conseils de Révision* in allotting men to the various arms.
- (4) Power to put back men of weak physique for two years instead of one.
- (5) The form of voluntary engagement known as *devancement d'appel* to be for four years instead of three.
- (6) An increase in the number of *sous officiers* who may be re-engaged men.
- (7) The recruiting lists are to be drawn up two years before the *classe* has to serve in the normal way, so as to enable a *classe* to be called up a year earlier than usual if necessary.
- (8) The Government has no longer the power to retain with the Colours a *classe* after the date on which it should be liberated.

This Bill was presented to Parliament on March 6th.

NEW CREDITS.—The committee charged with the investigation of the Bill to provide increased credits of £20,000,000 for the strengthening of the French Army in matériel has cut out the sum of £3,020,000 allotted to the supply of field howitzers on the score that an invention of Lieut.-Colonel Malandrin has enabled the existing field gun to be used for high angle fire. The remainder of the credits were passed by the committee as follows:—

Railways	...	...	...	...	...	£ 680,000
Artillery	...	...	...	...	...	8,560,000
Engineers	...	...	...	...	...	6,400,000
Intendance	...	...	...	...	...	840,000
Medical Corps	...	...	...	...	...	104,000
Powder	...	...	...	...	...	212,000
Geographical Service	...	...	...	...	...	4,000
Total	...	...	...	...	...	£16,800,000

These credits have become necessary as Germany has in the last ten years spent £40,000,000 more than France on war matériel alone.

It is calculated that France has 35 per cent. less peace effectives than Germany, that she spends 33 per cent. less money on her Army and that the individual fiscal burden imposed for military requirements is nine per cent. less than in Germany.

APPLICATION OF THE NEW "LOI DES CADRES DE L'INFANTERIE."—The composition of the ten new infantry regiments has been published, and they were to be embodied on April 15th.

The composition of five new regiments of Tirailleurs has also been settled.

The garrisons of the new regiments will be: 164, 165, 166, Verdun; 167, 168, 169, Toul; 170, Epinal; 171, 172, Belfort; 173, Nice.

Tirailleurs: 1st Regt, Algiers; 2nd, Oran; 3rd, Constantine; 4th, Tunis; 5th, Marocco (West); 6th, Marocco (East); 7th, Marocco (West); 8th, Marocco (West); 9th, Marocco (East).

INSPECTOR-GENERAL OF CAVALRY.—A new post has been created, an Inspection of Cavalry. The Inspector will be a cavalry officer who is a

member of the *Conseil Supérieur de la Guerre* and his duty will consist in ensuring uniformity of training and opinions, in directing the instruction of cavalry generals and commanding officers, and in directing cavalry manœuvres. He will report to the War Minister.

HORSE ARTILLERY.—The commandant of the artillery of the army corps in whose region a cavalry division is stationed will, in consequence of a new decree, be responsible for the training as well as the practice of batteries attached to or belonging to cavalry divisions.

COURTS MARTIAL.—Courts Martial in time of peace have been abolished. For military crimes offenders will be brought before a military tribunal composed of a civilian lawyer as president and six military judges. These military judges will be officers who will be formed into a corps called "*Le Corps de la justice militaire*." There will be five of these tribunals which will sit at Paris, Lyon, Nancy, Bordeaux and Algiers.

French Colonies.

INDO CHINA.—The Chinese pirate, De Tham, who for many years has given the French considerable trouble, has been killed in the Jen district.

WEST AFRICA.—The Niger territory has been divided into seven districts, *viz.* :—

(i) Niamey, comprising the sections of Niamey, Tillaberry, Dusso, Dogondoutchi and Gaya; (ii) Nadaoua, comprising the sections of Nadaoua, Naradi and Tahoua; (iii) Zinder, comprising Zinder, Tessaoua, Damerougou; (iv) Gouré, comprising Gouré, Alokos du Koutous and Toubou; (v) Maine-Soroa, comprising Maine-Soroa and N'Guigmi; (vi) Agades; (vii) Bilma.

A small force working through the country north-west of Adrar was surprised on January 10th. A French officer and some *sous officiers* were killed and the force had to retire. A small punitive expedition started in pursuit of the rebels.

EQUATORIAL AFRICA.—The Governor-General of Equatorial Africa has given an account of the developments to be carried out in his province during the next ten years. These developments will necessitate a loan of £7,000,000, of which £6,000,000 will be devoted to railways and £200,000 to ports. The railways will be as follows :—

- (1) From Stanley Pool to the sea via Brazzaville to Pointe Noire (cost £3,800,000, metre gauge).
- (2) To the north of the Gaboon connecting the navigable part of the Ogooue (Ndjole) with the Ivindo (Kandjama) (cost £1,800,000, metre gauge).
- (3) From Bangui to Fort Crampel on the Gribingui (a tributary of the Chari) (cost £600,000, gauge 60 centimetres).

Line (1) ensures communications to the sea by French territory and will save £160,000 per annum now paid to the Leopoldville—Maatadi line (Belgian). Line (2) will bring much produce to Cape Lopez which would otherwise go to the German Port Kribi.

A military post has been established at Ouanda Djalié, and Kanoum, the nephew of the Sultan Senoussi, and some other chiefs, have surrendered themselves at the post of Andimam. These chiefs have been sent to live at Fort Lamy.

Marocco (*Events in March, 1913*).

TRIBAL UNREST.—During March the Sous region was comparatively quiet, although the Kaid Anflous was still at large near Mogador; but immediately south of the line Casablanca—Meknès—Fez—Taza the emissaries of the northern pretender had stirred up the tribes.

ENGAGEMENTS ON THE WAD ZEM.—The French post on the Wad Zem is garrisoned by about 1,000 men; it has been repeatedly attacked, *vis.* :—

February 22nd, 23rd: two attacks by day, one by night beaten off; enemy (Zemmour and Tadla) left eight dead.

March 3rd: Tadla attacked: Colonel Mangin's mobile column co-operated with the post. French losses, two killed, 15 wounded; enemy, 100 killed, 200 wounded (estimated).

March 4th: Tadla again attacked; a French column from Ben Ahmud also co-operated. French losses about four killed, 20 wounded; enemy 90 killed, 250 wounded (estimated).

March 15th: Colonel Mangin was escorting a convoy to Wad Zem post; the escort was composed of two battalions, a battery, and a detachment of cavalry. At four kilometres from the post he encountered a large force of the enemy, which he at once attacked, and dispersed with serious loss. The French casualties were one officer, 13 other ranks killed, and 41 wounded.

March 17th: The enemy rallied and stormed a village held by friendly natives who had helped Colonel Mangin, and also threatened the Wad Zem post.

March 18th: Colonel Simon, with a column from El Boroudj, surprised the enemy six kilometres east of the post, and routed them with heavy loss. The French casualties were six wounded. The enemy's strength was estimated at 5,000 men. Colonel Simon pursued the enemy, who had fled north.

ENGAGEMENTS NEAR MEKNÈS.—Near Meknès there has also been fighting, *vis.* :—

March 7th: The French post at Araub was unsuccessfully attacked by about 600 men of the Beni M'Tir, Zemmour and Beni M'Guild.

March 8th: Colonel Reibell's column was attacked about 20 kilometres north-west of Agourai by a strong hostile detachment, which was driven off, leaving a number of dead, including the body of their leader, the well-known chief Ould Soumadel.

March 9th-10th: The enemy made another unsuccessful night attack on the post at Araub. French casualties one killed, four wounded.

March 17th-18th: The enemy made a desperate night attack on the post at El Hajeb, and were only repulsed by a bayonet charge of the garrison, which included troops of the Foreign Legion, African battalions, and Moroccan levies. French casualties, one killed, eight wounded.

SKIRMISH NEAR RABAT.—March 20th. A patrol of native troops dispersed a strong band of the enemy near Sidi Larbi. French loss, four killed.

COMMUNICATIONS.—Three trains a day each way are running on the Casablanca—Rabat railway. The railway from Kenitra to Meknès is working as far as the 30th kilometre. The railway from Oudjda is approaching the Moulouya, over which a road and railway bridge are being

commenced at Sidi Knader. The Franco-Spanish project for the railway from Tangier by Meknès to Fez was ready for submission to the two Governments, and was expected to be considered before the end of April.

REORGANIZATION OF THE MAROCCAN NATIVE TROOPS.—The Moroccan native troops in French pay at present number about 5,000 (550 French, 900 Algerian-Tunisian Arabs, and 3,500 Moroccan Arabs). Their strength will probably be increased to 7,000 before long, by the enlistment of 2,000 more Moroccan natives. Each unit includes a cadre of French officers and non-commissioned officers, and Algerian-Tunisian Arabs.

They are organized in: six squadrons, one company of engineers, 15 companies of infantry, one company of train, one sanitary group, one remount dépôt, various dépôts.

In addition, there is the Sherifian Guard at Fez: one squadron, four companies of infantry.

HEALTH OF FRENCH FORCES.—The medical statistics for the French forces in Morocco during 1912 show:—

Admissions to hospital, per 1,000 men: Metropolitan troops, 868; white Colonial troops, 1,559; Algerian-Tunisian troops, 1,194.

Deaths per 1,000 men: Metropolitan troops, 14.6; white Colonial troops, 16.2; Algerian-Tunisian troops, 20.5.

STRENGTH OF FRENCH FORCES IN MAROCCO.—Present in Morocco in March, 1913:—

Europeans of Home Army Corps	...	...	...	3,462
Europeans of Algerian and Tunisian Corps	...	...	...	20,285
Algerian Natives	...	...	...	14,956
Tunisian Natives	...	...	...	4,968
Total metropolitan troops				43,671
European Colonial troops	...	...	...	7,708
Senegalese Colonial troops	...	...	...	7,456
Total Colonial troops				15,164
Maroccan troops	...	...	...	3,318
<i>Grand Total</i>				62,153

COST OF FRENCH OCCUPATION OF MAROCCO.—*Military expenditure:—*

				£
1907	...	...	...	421,712
1908	...	...	...	1,527,956
1909	...	...	...	668,440
1910	...	...	...	471,020
1911	...	...	...	2,522,516
1912	...	...	...	5,339,096
Total				£10,950,740

In addition to the above, various sums for works in Morocco have appeared in the Budget of the Ministry of Foreign Affairs, and various

loans have been floated, which will mostly be expended on productive works.

GERMANY.

APPOINTMENTS.—General von Loewenfeld, commander of the Guard Corps, has, at his own request, been granted permission to retire, and has been placed on half pay. General Freiherr von Plettenberg succeeds to the command, being replaced at the head of the IXth Army Corps by Lieut.-General von Quast. The Crown Prince has been gazetted to command the 1st Grenadier Regiment of the Guard.

The Inspector-General of Communication Services, which include the aeronautical services, has been placed on half pay, at his own request.

ARMY INSPECTIONS.—The following will, from April 1st, 1913, form the various Inspections :—

1st : Headquarters Danzig, 1st, IIInd, XVIIth and XXth Army Corps.

2nd : Headquarters Berlin, Guard Corps, VIth, XIIth and XIXth Army Corps.

3rd : Headquarters Hannover, Vth, VIIth, IXth and Xth Army Corps.

4th : Headquarters Munich, IIIrd, Ist, IIInd and IIIRD Bavarian Army Corps.

5th : Headquarters Karlsruhe, VIIIth, XIVth and XVth Army Corps.

6th : Headquarters Stuttgart, IVth, XIth and XIIIth Army Corps.

7th : Headquarters Saarbrücken, XVIth, XVIIIth and XXIst Army Corps.

TRAINING OF RESERVISTS.—According to the Press a slight increase is to be made in the number of reservists to be called up for training this year; the total amounts to some 551,315 rank and file.

TRIAL MOBILIZATION.—A trial mobilization of the defences of Borkum took place at the end of February, infantry, artillery and pioneers from Emden, Aurich, Oldenburg and Minden being transported to the island by the shipping in Emden harbour.

FIELD HOWITZERS.—The formation of howitzer *Abteilungen*, by which each division (instead of only one in each army corps) will receive a proportion of field howitzers, is proceeding rapidly.

The New Army Bill.

Herr v. Bethmann Hollweg, in introducing the new Army Bill, spoke of the reasons for the increases involved. He attributed them to the changes taking place in Europe owing to the war in the Balkans, and said that in future Germany would have to rely still more on her own strength, implying that her Allies might not be able to give her the same assistance as before. At the same time he laid great stress on the increases projected in the French and Russian Armies, and the rise of Slavism or, as he subsequently explained, the influence of the Pan-Slavists. He made several flattering remarks as to the attitude of England, and to the cordial relations existing between the two Governments.

The provision of the Army Bill, now under discussion in the Reichstag, include the following :—

(1) *Increase of peace establishment* by 4,000 officers, 15,000 non-commissioned officers, 117,000 rank and file, 27,000 horses.

As regards rank and file, this entails about 63,000 additional recruits annually, which, with the customary allowance of eight per cent. for casualties during the year, results in an increase of 58,500 men.

The peace strength will now stand at 661,176 men, exclusive of officers, non-commissioned officers, one-year volunteers, officials and surplus recruits.

(2) *Increase in number of units.*

	<i>At present.</i>	<i>In future.</i>	<i>Increase.</i>
Battalions of Infantry	651	669	18
Squadrons of Cavalry	516	550	34
Batteries of Field Artillery	633	633	0
Battalions of Foot Artillery	48	55	7
Battalions of Pioneers	33	44	11
Communication Troops	18	31	13
Battalions of Train	25	26	1

(3) A cyclist and a machine-gun company is to be added to each of the 18 Jäger (Rifle) battalions.

(4) Provision of machine-gun companies for fortresses and creation of further searchlight sections.

(5) The peace establishment of infantry companies, squadrons and batteries is to be raised.

Infantry.—There are in future to be only two establishments for the infantry of the line—higher and lower—the present higher becomes the new lower and a new higher establishment is created.

Cavalry.—There is to be only one establishment, and that one higher than the present higher one.

Artillery.—The chief alteration is the increase in horses.

(6) Money (£10,500,000) is asked for in connection with fortifications—chiefly on the eastern frontier.

(7) A new (8th) Army Inspection is to be formed.

(8) Large increases in new formations in the Flying Corps are to be made (see under Aeronautical).

(9) Increases to the staff of regiments to provide regular officers on mobilization for reserve units.

It must be remembered that the ordinary estimates for 1913-14 included provision for two battalions of infantry, 95 machine-gun companies (every regiment now is to have a machine-gun company), one cavalry regiment, ten field artillery batteries, one foot artillery battalion, one railway battalion, and five Train companies.

The whole of the increases enumerated above, with the exception of some of the technical troops, are to be carried out on October 1 of this year.

Cost.—The financial aspect is by no means certain.

The non-recurring sum of 50 millions sterling is to be met by a general levy on property. It would seem that when the provisions of the Bill are in working order the annual increase will amount to £9,500,000.

Effect.—The intended effect of this measure is described in the preamble as follows:—"By means of this improved organization of units, the Army will receive increased and ever-ready fighting powers, the change from a peace to a war footing will be facilitated, the annual

levies of the Reserve and *Landwehr* will be rejuvenated and re-enforced."

War Chest.—In addition to the foregoing changes it is proposed to add to the present six millions in specie kept in the Julius Thurm at Spandau for war purposes another 12 millions (half in gold and half in silver), to be lodged in the cellars of the Reichsbank.

This, however, is to be gradually accumulated by the issue of 5s. and 10s. notes, and will take a year or so to complete.

NEW FORTIFICATIONS.—It appears probable that the new Army Bill will contain provision for increases in the fortification of Posen, Graudenz, Coblenz, Breslau and a number of smaller fortresses on the eastern frontier.

German Colonies.

NEW CABLE.—By the laying of a cable from Monrovia via Lome to Duala, Togoland and the Cameroons are now in communication with Germany by means of German cables, since the new cable joins the cable Emden-Teneriffe-Monrovia at the last-named place. The line was opened for traffic on January 19th, 1913. It is said that it will be continued to South Africa by 1916.

GERMAN EAST AFRICA: Central Railway.—This line reached the Malagarassi near Ugaga, 146 miles beyond Tabora, on January 29th, 1913. Further progress will be delayed by the construction of a bridge across the Malagarassi, which will take about two or three months to complete.

CAMEROONS: Central Railway.—The progress of this line would seem to have come to a standstill as the contractors for the first section (150 km.) are not anxious to contract for the next section. In this section the line will commence its climb up to the Central African Plateau and the real constructional difficulties begin.

HOLLAND.

MINISTRY OF DEFENCE.—The Ministries of War and Marine have been merged by Royal Decree into a Ministry of Defence.

PASSING OF LANDSTORM BILL.—The *Landstorm* Bill passed the Second Chamber of the States General on March 7th. The passing of this Act completes the organization of the Dutch land forces commenced by the Militia and *Landweer* Acts of 1901 and, when it has had its full effect, will bring the total of trained men available for land service up to 370,000. Of these 160,000 will be *Landstorm*, which will form a reserve for the Militia and *Landweer* of 210,000.

RATES OF PAY FOR N.C.O.'s.—The rates of pay for N.C.O.'s of all arms have been increased. In addition, a special annual allowance of £16 13s. 4d. is made to those who marry after completing six years' service as N.C.O.'s.

VOLUNTEER MOTOR CYCLIST CORPS.—The Dutch Motor Cyclists' Association proposed to form a Volunteer Motor Cyclist Corps and the organization and terms of service of the Corps are now under discussion.

CHANGE OF STATIONS.—The two squadrons of the 2nd Hussars formerly stationed at Venlo were to move to their new barracks at Tilburg on April 30th.

MANŒUVRES.—The 2nd and 4th Divisions will take part in manœuvres in Gelderland this year from September 15th to 20th.

HORSE MOBILIZATION.—Experiments on a small scale have been carried out in bringing up certain batteries to war strength with requisitioned horses. The results attained were considered highly satisfactory.

ITALY.

MOBILE MILITIA.—Fourteen additional nuclei of Mobile Militia have been formed. There are now 75 nuclei for Mobile Militia attached to infantry and grenadier regiments, and 23 to Alpine battalions.

TRAINING OF 2ND CATEGORY.—The men of the 2nd category of the 1888 and 1889 classes have been recalled to the colours for three months' training from April 1st to July 1st. These men have already been trained for three months with the Colours, and their summons to complete the six months' training to which they are legally liable constitutes a new departure. This course has been adopted to fill up the ranks of units which are much under establishment owing to the 80,000 men still serving in Libya; but it is possible that this will be also done in future years to increase the peace establishment of the Army, which is very low in comparison to that of other Armies.

ARTILLERY.—General Spingardi in his speech on the Army Estimates said that the field artillery re-armament will be completed by the end of 1913, and that before June, 1913, the horse and mountain artillery will also have been re-armed. He also said that new batteries of heavy field artillery armed with a 5.9-inch steel gun were being formed.

Italian Colonies.

ERITHREA.—The establishment of native battalions has been raised from four to eight.

The railway from Asmara to Keren has been made for quarter of the distance, and it is expected the line will be completed by 1914.

ITALIAN SOMALILAND.—In Benadir the Italians are gradually occupying the country. The harbour of Brava is being constructed at a total estimated expense of £800,000, and it will eventually be joined to Mogadisco by a railway.

Roads are being made throughout the zone occupied and by June the Italians hope to reach Sivai, on the Scebeli, 100 miles north of Nogadisco.

JAPAN.

KOREAN GARRISON.—Replying to interpellations on the subject of the proposed two new divisions of the Army, for service in Korea, in the Diet, the Premier, Count Yamamoto, stated that the last (Saionji) Cabinet recognized the necessity for the scheme, but decided to postpone it for financial reasons. The Premier added that if it should become necessary to expand the Army in the future the Diet would be consulted.

JAPANESE MILITARY MISSION.—Major-General Hoshino, who, during the Russo-Japanese War, filled the position of Chief Staff Officer to the 1st Division, and as such participated in the siege of Port Arthur and the battles of Nanshan and Mukden, visited various military institutions in England during March, being accompanied by a party of some 12 Japanese officers who are investigating military affairs in Europe.

NORWAY.

LAW OF MILITARY SERVICE.—The Government is about to bring in a Bill to introduce full conscription in Northern Norway (Nordland, Tromsø, Finnmark, etc.), in which, hitherto, only a modified form of conscription existed.

MILITARY AND NAVAL CREDITS.—The *Storting* will be asked to vote an extraordinary credit of £33,300 for defence. Of this sum £4,160 will be allotted to aviation, and £16,600 to provide a reserve stock of coal for the Navy.

RAILWAYS.—The Ulrikfjord—Vaglsjon section was opened on December 1st, 1912, for limited traffic.

ROADS.—The Riksdag has voted 30,000 kroner for making improvements of roads in the läns of Vasterbolten in Northern Lappmark. The object of this vote is to procure road communications between Sprsele and Gautstrask, which lie about 50 miles from the Norwegian frontier.

PERSIA.

POLITICAL.—The ex-Shah, with his family, was reported to have left Odessa for Berlin on March 5th with the intention of spending the spring in the south of France. Some fear existed in Persia that he might return there and make another attempt to regain the throne. Sir E. Grey stated in the House of Commons that any such attempt would be strongly deprecated by both the British and Russian Governments.

DISTURBANCE AT BANDAR ABBAS.—An attack on a survey party and looting in the district by a party of Baharlu raiders were reported from Bandar Abbas during the first part of March; Bandar Abbas itself was attacked on March 16th. Bluejackets were landed to reinforce the Consular Guard and assist in repelling the raiders. It is understood that the latter have now left the vicinity of Bandar Abbas and that conditions are again normal.

RAILWAYS.—A concession has been granted to a Russian syndicate for a railway from Julfa to Tabriz, and branch to Lake Urmia, with a conditional preference for an extension from Tabriz to Kazvin.

A two years' option for the construction of a line from Mohammerah, or a point adjacent thereto, to Khoremabad has been granted to a British syndicate.

SALAR-UD-DAULEH.—Salar-ud-Dauleh, despite the conclusion of arrangements under which he was to receive a pension and amnesty, resumed his rebel career at the end of January between Astarabad and Bujnurd. He is since reported to have accepted the Government terms conditionally.

GENDARMERIE.—Four hundred and fifty gendarmes left Tehran for duty in Fars on February 28th. Early in March 168 men lately enlisted locally at Bushire for the gendarmerie were disbanded.

RUMANIA.

MECHANICAL TRANSPORT.—The War Minister has announced that, in order to encourage the purchase of motors, and especially of motor-lorries, a bonus will be paid by his department to owners of such vehicles. The military authorities will keep lists of motors which must be placed at the disposal of the Army in case of war, when a suitable price will be paid.

FORTRESSES.—The War Minister is reported in the Press to have appointed a commission to study the project of constructing a fortified naval base at Mangalia on the Black Sea.

RUSSIA.

MONGOLIA.—M. Miller, the Consul-General at Tabriz, has been appointed Consul-General at Urga, and will take up his post shortly. The Press continue to publish circumstantial reports of Chinese preparations for war with Russia over the Mongolian question.

APPOINTMENTS.—Lieut.-General Martinov, commanding the Trans-Amur Frontier Guard, has been appointed General Officer commanding 35th Infantry Division, Moscow, vice Lieut.-General Sichevich, who will take over command of the Trans-Amur Frontier Guard. General F. V. Marston, who has been superseded by General Rennenkampf in command of the Vilna military district, continues to serve as assistant to the latter general, who, until last February, was one of his corps commanders.

WAR OFFICE CHANGES.—Army Order 688/1912 transfers from the General Staff (Mobilization Section) to the Headquarters Staff the following work:—

All questions relating to conscription, short term volunteers, &c., recruiting statistics and estimates; Cossack liability to service; peace establishment of the Army.

The General Staff will also hand over to the Headquarters Staff the work connected with the regulations for extended service non-commissioned officers and for persons employed with the troops for wages.

A new establishment is introduced for the Mobilization Section, which will consist of four sub-sections under two general officers, and six other officers of the General Staff, and nine other officers.

A new establishment is authorized for the Headquarters Staff by Army Order 690/1912. This provides for two new sections in the pensions and non-commissioned officers branch to deal with the work lately transferred from the General Staff.

PROMOTION TO FIELD OFFICER'S RANK.—Russian Army Orders 647 and 653/1912, introduce provisionally new regulations for the promotion of captains of infantry, cavalry and Cossacks, to field rank (*podpolkovnik*, i.e., lieut.-colonel).

During 1913 promotions to lieut.-colonels' vacancies will be made in three categories as follows:—

- (1) To 55 per cent. of the vacancies—by "seniority."
- (2) To 35 per cent. by selection "accelerated."
- (3) To ten per cent. for "distinguished service."

In order to be eligible for promotion by seniority, captains must have commanded a company for three years, have not less than 12 years' service (four as captain), be well reported on, and be under 53 years of age. Captains recommended for "accelerated" promotion must have similar qualifications, but must be under 45 years of age. Officers commanding units may recommend for such accelerated promotion up to 25 per cent. of their captains who are eligible for promotion. The divisional commander will select one-fourth of the names for recommendation, and the corps commanders, who make the final selection, may recommend to the War Office one-half of the captains put forward by the divisional commander.

Officers recommended for "accelerated" promotion who have passed the Staff College, or Artillery or Engineer Colleges will be borne on a special list and will be given ten per cent. of the available vacancies; such officers need only have commanded a company for two years and served as captain for three years. Captains recommended for promotion for distinguished service will be considered strictly in order of seniority. The object of this last category is to provide an opening for deserving officers who would otherwise be obliged to leave the service.

Promotions will be made twice annually—at the conclusion of the winter and summer courses of training respectively.

PROMOTION TO COLONEL'S RANK.—Army Order 649/1912 introduces new regulations for promotion to the rank of colonel of infantry, cavalry and engineers (Guard units excluded). Formerly promotions were made from separate divisional rosters; in future, promotions to colonel's rank will be made from three lists: (i) by seniority, 65 per cent.; (ii) accelerated, 25 per cent.; (iii) for distinguished service, ten per cent.

To be considered for promotion in category (i) officers who are well reported on must have at least 15 years' service, including four years as lieutenant-colonel, and must be not less than 54 years of age. Promotions in category (ii) may be given to selected officers of not less than 15 years' service (three years as lieutenant-colonel) or 50 years of age.

To be eligible for promotion for distinguished service officers must fulfil the conditions for category (ii), except that their age may run up to 53 years.

Promotions will be made annually on the Tsar's birthday (May 19th).

TROOPS IN THE FAR EAST.—Army Order 641/1912 notifies the following changes in the 10th Siberian Rifle Division:—

The 40th Siberian Rifle Regiment of the 2nd Brigade at Nikolaevsk becomes an independent command, and the 39th Rifle Regiment at Kharbarovsk is merged into the 1st Brigade.

SPIRIT RATIONS.—Army Order 662/1912 abolishes the issue of vodka to rank and file of the Amu Darya Flotilla: the money saved thereon being devoted to improvement of the tea ration.

SPAIN.

CONDITIONS OF SERVICE: N.C.O.'s.—The following ranks have been re-organized—corporal, sergeant, *brigada* (company or squadron sergeant-major) and sub-lieutenant, which is the highest rank of under-officer. Sergeants are selected in each corps from corporals with six months' service, who have passed the prescribed examinations. *Brigadas* and sub-lieutenants are promoted from sergeants and *brigadas* respectively, according to seniority.

N.C.O.'s after completing three or four year terms of military service may make four re-engagements of five years and prolong the last engagement until the age limit is reached, which is 45 years of age for sergeants or *brigadas*, and 51 for sub-lieutenants.

PREPARATORY EDUCATION.—State preparatory military schools are to be created. These schools will be placed under the supervision of Captains-General: they are to contain from 100 to 300 students, and will be attached to regiments in garrison towns. The commanders of these regiments will become directors of the schools. About 156 of these schools will be formed, capable of instructing 42,000 youths.

ORGANIZATION.—The peace establishment for 1913 is fixed at 121,065.

The Spanish Army organization is being changed in some respects. The following is a summary of the future arrangements (omitting educational establishments).

The Active Army will consist of:—

Infantry: Royal Body Guard; 70 line regiments; 23 battalions rifles; disciplinary brigade of Melilla.

Cavalry: Squadron of Royal Escort; 29 regiments of cavalry; 4 overseas squadrons; group of Ceuta squadrons.

Artillery: 12 field regiments; one horse regiment; one heavy regiment; three mountain regiments; two composite (Melilla and Ceuta).

Engineers: Seven composite regiments; two oversea sapper companies; one pontoon regiment; four oversea commands (one company sappers and one telegraph company each); one railway regiment; one telegraph company for the Madrid line; one balloon and searchlight company; one topographical brigade.

INFANTRY.—There are 56 infantry regiments and 18 rifle battalions quartered in Spain. Twelve regiments of the 1st, 4th and 5th reinforced divisions have a higher establishment; three of the rifle battalions also have a higher establishment. These units form 14 divisions, of two infantry brigades each, and three rifle brigades.

CAVALRY.—The cavalry is organized into:—One cavalry division of two brigades of two regiments; three cavalry brigades (two or three regiments); one regiment to each of the 14 divisions; unallotted, four regiments.

ARTILLERY.—The artillery consists of:—Horse and field artillery regiments, each of three brigades, two having three batteries and one having two batteries in peace time. On mobilization each brigade has three batteries of four guns each. The horse artillery regiment belongs to the cavalry division.

Each infantry division has one field artillery regiment, except the 7th, 11th and 14th, which have each one regiment of mountain artillery allotted to them. (Each regiment four 4-gun batteries and a dépôt). One field artillery regiment, which forms a 5th battery on mobilization, is unallotted.

ENGINEERS.—The engineers consist of:—Seven regiments, each of five companies, a telegraph company, and two dépôt companies. Two regiments are in Ceuta and Melilla respectively. There are also single companies at Ceuta, Melilla, Mallorca, Menorca, Teneriffe, and the Canary Islands.

MELILLA COMMAND.—The following troops form the Melilla command:—Two infantry brigades (each two regiments and a machine-gun section); disciplinary brigade; two cavalry regiments; one regiment mountain artillery of three brigades (each three batteries and ammunition column); one regiment engineers; one telegraph company engineers; and details of administrative services, police, native levies, etc.

CEUTA COMMAND.—The Ceuta command has the following:—One brigade of two regiments; one group cavalry (three squadrons); one composite regiment artillery (one brigade field and one brigade mountain, each with three batteries and ammunition column); one regiment engineers; one telegraph company engineers; native militia, police, etc.

Other units not mentioned form the garrisons of the Balearic Islands, Canary Islands, etc.

SPANISH NORTH AFRICA.—The Spanish territories are estimated to be of the following size and population: North Morocco, 20,350 square kilometres, 400,000 inhabitants; Ifni *Enclave*, 2,000 square kilometres, 4,000 inhabitants; South Morocco and the Gold Coast, 313,910 square kilometres, 12,000 inhabitants.

Tangier, which is internationalized, has 58 square kilometres, and 60,000 inhabitants.

SWEDEN.

ARMY ESTIMATES.—The Estimates for 1914 are as follows:—Ordinary Expenditure, £2,780,467; Extraordinary Expenditure, £281,833.

The Ordinary Expenditure shows an increase of £66,563 over that of 1913, while the Extraordinary Expenditure has decreased by £66,768. The increase of the former is due partly to an increase of pay and allowances, and to an increase of £24,381 for remounts, mainly owing to 120 horses needed for new howitzer batteries. The decrease in Extraordinary Expenditure is due to the decrease in the barrack building vote of nearly £100,000 and the disappearance of the vote for trial mobilization, which required £32,666 in 1913.

A new item is the purchase of 13,000 pairs of ski and fur cloaks for the troops in the north.

UNITED STATES.

PANAMA CANAL.—It is reported that the Canal is to be lighted by a double row of automatic acetylene lighted buoys, and that the channel will be further defined by powerful flash lights at various points. In the Culebra Cut, or wherever the proximity of the bank permits, beacons will be used instead of buoys.

The United States Government has determined to turn the Canal Zone into a military reservation, and to allow no settlers upon it. The Canal, when completed, will give employment to not more than 3,000 negroes, and about 30,000 will have to leave within the next three years. Panama itself will absorb but few of these as it is developing very slowly, and it seems probable that the greater portion will be returned to the British West Indies in about two years' time.

CABINET.—The Secretary for the Navy in the new Cabinet is Mr. Josephus Daniels, and the Secretary for War Mr. Lindley M. Garrison. The Secretary of War has been a lawyer by profession, and the Secretary of the Navy an editor.

INTEROCEANIC CANALS.—On March 13th the Press published the details of a communication between the United States and Colombia by which the former desired to secure exclusive rights for the possible construction of an interoceanic canal from the Gulf of Uraba on the Atlantic to the Pacific Ocean through the region of the Atroto river. In consideration of the above, as well as for rights with regard to proposed coaling stations, etc., the United States offer Colombia £2,000,000. Colombia is reported to have declined the proposals.

NEW CAVALRY SWORD.—After experiments lasting over some seven years the new cavalry sword has been finally approved. Its blade is 35½ inches long, and it weighs two lbs. eight ozs. It has a straight double-edged chisel point blade, and is perfectly balanced. The grip is shaped to give great thrusting power.

AERONAUTICAL NOTES.

BRITISH EMPIRE.

ROYAL FLYING CORPS.—The King has been pleased to approve of the Royal Flying Corps being permitted to adopt the motto, "*Per Ardua ad Astra*."

FATAL ACCIDENT AT EASTCHURCH.—An unfortunate accident happened on the afternoon of April 21st, at the Naval Flying School at Eastchurch, resulting in the death of Paymaster E. R. Berne, R.N. It appears that Paymaster Berne had been discussing the mis-firing of the engine of a Short biplane, which was preparing to fly. On the engine being re-started he threw himself flat, in expectation of the machine clearing him. The propeller, however, failed to clear him, and he was struck with fatal results.

NAVAL AIRSHIPS.—It was officially stated in Parliament, on April 30th, that two non-rigid airships had been ordered for the Navy, and were almost completed; and that a joint naval and military non-rigid airship was under construction. According to Press reports, the first trial flight of the Parseval airship under construction for the British Navy, was successfully carried out on April 26th, at Bitterfeld. The Astra-Torres airship, the other naval non-rigid airship referred to, is reported to be rapidly nearing completion at the Royal Aircraft Factory at Farnborough, where the component parts, which have been brought from France, are being put together.

NAVAL AIR STATIONS ON THE EAST COAST.—According to Press reports, naval air stations were constituted on April 15th at Yarmouth and Harwich, on similar lines to the naval hydroplane station commissioned on the Isle of Grain on December 31st last. Yarmouth air station is to form the centre of a group of stations on the East Coast, and is under the command of a naval lieutenant holding the grade of squadron commander in the naval wing of the Royal Flying Corps. Harwich air station is under the command of a captain, Royal Marines, holding the grade of Flight Commander. It is further stated that hydroplane experiments were carried out at Harwich by naval officers a year ago, when the site for the air station was chosen; Yarmouth site has been acquired recently. Four naval air stations, it is added, are now in commission: the Isle of Grain, Harwich, Yarmouth, and Calshot (near Southampton).

PARENT SHIP.—Orders were issued for H.M.S. "*Hermes*" to be commissioned, on May 7th, as sea-going tender to the Naval Wing of the Royal Flying Corps, and for the personnel of the Air Service to be transferred to her from H.M.S. "*Actæon*," the torpedo schoolship at Sheerness. H.M.S. "*Hermes*," light cruiser of 5,600 tons, has been employed until recently as flag-ship at the Cape of Good Hope.

FATAL ACCIDENT.—A fatal accident occurred at Farnborough on April 28th, resulting in the death of Lieut. L. C. Rogers-Harrison, Royal Flying Corps. It appears from the evidence at the inquest, that the deceased, who was piloting the Cody biplane, which was in the Military Aeroplane Competition last autumn, attempted to flatten out too quickly after a very steep dive, with the engine running.

INDIA.—It was officially stated in Parliament on April 8th, that a scheme was under consideration for providing an air fleet for the Indian Army.

NEW ZEALAND.—It is reported in the Press that the Imperial Air Fleet Committee has decided to present an aeroplane to the New Zealand Government, who have accepted the offer. The machine selected is the Blériot armoured two-seater monoplane, which was used by Mr. Hamel in his flight from Dover to Cologne.

NAVIGATION OF AIRCRAFT COMING FROM ABROAD.

The following is a short summary of the orders and regulations with regard to the prohibited areas and landing areas which were issued by the Home Office in March.

The orders prohibit absolutely the navigation of aircraft over certain areas, the central points of which are shown on the accompanying map. The "prohibited area" extends in each case three miles in every direction from the boundary of the place named.

The navigation of aircraft coming from abroad is further prohibited over the whole coastline and territorial waters of the United Kingdom except in the following portions: Fraserburgh to the Ythan River; Holy Island to Newbiggin; Sutton (Lincolnshire) to Holkham (Norfolk); Stansgate Abbey on the Blackwater to Burnham-on-Crouch; Margate to Walmer; Rye to Eastbourne; Hove to Bognor; Bridport to Dawlish. These "aerial ports" are indicated on the map.

The areas bounded towards the sea by the portions of coastline specified in the last paragraph, and extending inland for five geographical miles, are prescribed as "landing areas" for all aircraft coming from abroad; no such aircraft may navigate over the United Kingdom till it has landed in one of these landing areas and complied with the conditions given below.

Every person in charge of an *airship* must, before commencing a voyage to this country, apply for a clearance to a British consular officer in the country from which the voyage begins, and may not enter the United Kingdom till 48 hours after receiving the clearance. The application has to include full details of names, nationality, profession, etc., of the passengers and crew; name, number, and type of airship; cargo; time and place of departure; proposed destination and object of voyage.

A person in charge of an *aeroplane* must, before commencing a voyage to the United Kingdom, give notice to the Home Office stating (a) the proposed landing place, which must be within one of the prescribed areas; (b) the approximate time of arrival; (c) his name and nationality. This notice must be despatched so as to reach the Home Office at least 18 hours before he enters the United Kingdom.

The orders further prohibit aircraft coming from abroad from carrying contraband goods, photographic apparatus, carrier or homing pigeons, explosives, firearms or mails.

After landing in one of the prescribed areas the person in charge of the aircraft has to obtain a permit to continue his voyage, and must comply with the following conditions:—

In the case of an *airship*, at least one British representative approved of by the authorized officer must be carried.

No wireless or photographic apparatus, carrier or homing pigeons, explosives, firearms or mails may be carried.

The journey must be effected within the time and by the route specified in the permit.

The aircraft, before leaving the United Kingdom, must descend in one of the prescribed areas and report to the authorized officer.

If any of the terms of the permit cannot be kept owing to accident, stress of weather, or other unavoidable causes, the aircraft must descend at the earliest opportunity and the person in charge must at once report by telegram to the Home Office.

Foreign naval or military aircraft are prohibited from passing over or landing within any part of the United Kingdom or its waters, except on the express invitation or permission, previously obtained, of His Majesty's Government. Such aircraft are exempted from the above orders and are subject to whatever conditions as are set forth in the invitation or permission.

The conditions prescribed above for aircraft coming from abroad do not apply to an aircraft which commenced its journey from and is returning to the United Kingdom provided that the owner, the person in charge, and the crew are British subjects; that notice is given to the Home Office before or immediately after the outward journey is made; that the return journey is made within 30 days of its departure from the United Kingdom; that at least 18 hours' notice of the return journey is given to the Home Office stating the intended landing place (which must be in one of the prescribed landing areas) and the approximate time of arrival.

REGULATIONS.—The Regulations made by the Secretary of State, in connection with Section 2 of the Aerial Navigation Act, prescribe that:—

The officer giving the signals and taking the action mentioned in the said Section must be a commissioned officer in His Majesty's Naval or Military Forces.

The signals which are to be given when an aircraft attempts to fly over any prohibited areas, or when an aircraft coming from abroad attempts to fly over any prohibited part of the coastline or fails to comply with any conditions as to landing, are as follows:—

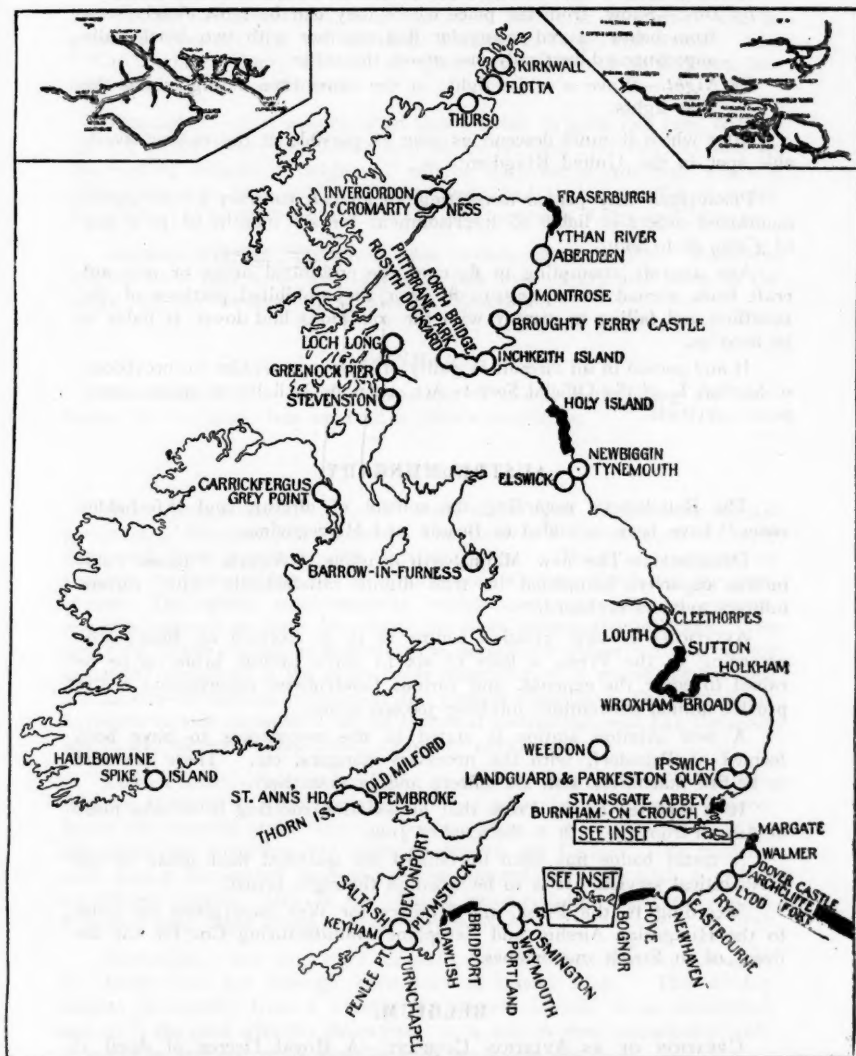
By Day.—Three discharges at intervals of not less than ten seconds of a projectile showing smoke on bursting.

By Night.—Three discharges at intervals of not less than ten seconds of a projectile showing red stars or red lights.

On such signal being given, the aircraft must land at the nearest available spot provided that, if it is approaching or flying over any prohibited area, it does not in descending advance nearer towards or into the area.

MAP OF THE BRITISH ISLES SHOWING PROHIBITED AREAS AND PRESCRIBED LANDING AREAS.

(The two small inset maps are reproduced, by permission, from *Flight* of March 15th, 1913.)



NOTE.—The approximate positions of the "Prohibited Areas" are indicated by circles; those in the Thames Valley and near Southampton are shown separately in the two inset maps. The "excepted portions" of the coastline and the prescribed landing areas are indicated by thick black lines.

If an airship is unable to descend immediately in accordance with the signal, owing to stress of weather, fog, breakage of machinery, or other unavoidable causes, it must make the following signal:—

By Day.—Show, from the place where they can be most clearly seen from below, a red triangular flag together with two black balls superimposed vertically one above the other.

By Night.—Wave a white light, at the same time extinguishing the side lights.

After which it must descend as soon as possible at the nearest available spot in the United Kingdom.

PENALTIES.—Any person navigating an aircraft contrary to the above-mentioned orders is liable to imprisonment for six months or to a fine of £200, or to both.

Any aircraft attempting to fly over the prohibited areas or any aircraft from abroad attempting to fly over the prohibited portions of the coastline and failing to comply with the conditions laid down, is liable to be fired on.

If any person in an aircraft is guilty of espionage within the provisions of Section I. of the Official Secrets Act, 1911, he is liable to seven years' penal servitude.

AUSTRIA-HUNGARY.

The Regulations regarding the control of aircraft and "forbidden zones" have been extended to Bosnia and Herzegovina.

DIRIGIBLES.—The new Mannsbarth dirigible, "Austria" (9,000 cubic metres capacity), completed its trial flights satisfactorily with various military aviators on board.

AVIATION.—A new aviation centre is to be formed at Budapest; according to the Press, a loan of six to seven million krone is to be raised to cover the expense, and various Government departments are to provide annual subventions totalling 300,000 krone.

A new aviation station is stated in the newspapers to have been formed at Parndorf, with the necessary hangars, etc. There are said to be five machines, with six officers and 20 men there.

It is reported in the Press that an aviation meeting is to take place at Aspern from the 15th to the 22nd of June.

A metal badge has been introduced for qualified field pilots of the aeronautical service. It is to be worn on the right breast.

According to the Press, the Ministry for War have given an order to the Hungarian Airship and Aeroplane Manufacturing Co. for the delivery of 50 Etrich monoplanes.

BELGIUM.

CREATION OF AN AVIATION COMPANY.—A Royal Decree of April 16 creates a company of aviators, composed of a certain number of *escadrilles* and a school of aviation. Each *escadrille* is to consist of four aeroplanes with personnel and means of transport complete; two officers are allotted to each aeroplane. One *escadrille* is allotted to each of the fortresses of Liège and Namur.

Those of the personnel of the company who actually fly will be considered as being on active service during their service in the company.

LOCATION OF AEROPLANES.—It is reported that the School of Aviation will remain at Brasschaet, near Antwerp, and that *escadrilles* will be posted at Hasselt, Spa and Mons, in addition to Liège and Namur. The "F.16" type of Henry Farman aeroplane, manufactured in Belgium, has been adopted for the Army.

DIRIGIBLES.—It is also reported that a small dirigible has been ordered for the Army from the Zodiac firm at Paris; and that this, as well as the existing dirigible "Belgique," will be stationed at Antwerp, where a large shed is to be erected to house them; and that a smaller shed for dirigibles is to be erected at each of the two fortresses, Liège and Namur.

GERMAN AIRSHIP REPORTED NEAR LIÈGE.—Reports from numerous sources state that a German Zeppelin flew over Herve and some of the Liège forts on the morning of Sunday, March 30.

DENMARK.

AVIATION.—Prince Axel of Denmark, a cousin of the King and lieutenant in the navy, has received a pilot's certificate.

FRANCE.

ARMY AERO ORGANIZATION.—An *arrêté* dated April 16 alters the organization of *L'Aéronautique Militaire*. The *Centres d'Aéronautique* formerly contained both aerostatic and aviation units. These are now to be replaced by *Ports d'Attaché* for airships and *Centres d'Aviation* for aeroplanes. The special establishments, which used to be five in number, are now reduced to three by rolling the three laboratories into one. The grouping of the regions is altered. The aeronautic troops are now placed under the command of the army corps commanders in whose regions they are located for tactical instruction and general discipline. The Permanent Inspector is still responsible for all technical instruction, and has the main say in the method of expending monetary resources.

LONG FLIGHT.—Gilbert left Paris on the morning of April 24 and flew without landing to Vittoria in Spain, 534 miles in eight and a quarter hours (the express train takes 15 hours); after a short stop he went on the same day a further 155 miles to Medina del Campo. The machine used was a two-seated Morane-Saulnier monoplane fitted with a 54-h.p. Le Rhone engine. This is the longest cross-country flight on record, Fourny's long flight being over an aerodrome.

DIRIGIBLES.—The only rigid dirigible that the French Army possesses has lately been put through some very successful trials. This airship obtains its rigidity from a wooden framework, instead of an aluminium one, as is the case with the Zeppelins. It is said to steer remarkably well. It is run in and out of its shed on rails 150 yards long.

AVIATION IN MAROCCO.—In Eastern Morocco the *escadrille* of aeroplanes from Oudjda has made some flights along the Moulouya.

In the Tadla, Colonel Mangin's column was joined by an aeroplane on March 28.

GERMANY.

PROVISIONS OF THE NEW BILL.—There are, in future, *i.e.*, from October 1 of this year, to be five instead of three airship battalions and four flying battalions, with a personnel of 152 officers, 21 medical officers, 37 officials, 808 non-commissioned officers, and 4,001 men.

For 1913-15 the non-recurring expenditure for Prussia, Saxony and Württemberg amounts to **£3,950,000**. The amount to be spent on airships and aeroplanes and their number are not disclosed.

As regards the Navy, the fleet is to consist of ten airships and 50 aeroplanes with a personnel of 1,452, divided into two squadrons, each of five airships, of which four will be kept in commission in revolving double sheds, while the fifth is to be in reserve. The aeroplanes are to be divided into six groups, each group having six aeroplanes, 14 being kept in reserve, in addition to one central station.

NEW VEEH AIRSHIP.—At Düsseldorf, a new Veeh dirigible of the semi-rigid type is being constructed. The envelope is 78 metres long, and the capacity 8,000 cubic metres. The various parts of the airship are so designed as to be easily dismountable, and whenever possible the framework is made of steel.

ZEPPELIN IV. IN FRANCE.—On April 3 the latest Zeppelin airship ("Z.IV."), which was undergoing trials before acceptance for the German Army, crossed the frontier, and after flying over 150 kilometres of French territory landed on the manoeuvre ground at Lunéville. The carefully guarded secrets of construction were immediately investigated by the French experts who, if their newspapers can be trusted, thought the whole thing was too fragile. The airship is said to have been thoroughly photographed and examined while arrangements were being made to return it to the country of its origin. The French Government allowed the airship to return to Germany by air, after the necessary repairs had been effected and a supply of hydrogen had been sent by express train from Germany.

This airship may now be reckoned among those in the possession of the German Government.

The German Government expressed its thanks for the courteous action of the French Government in this incident. In the last week of April France was again visited by German aircraft. A military biplane, with two officers in uniform, landed at Arracourt, having lost their way, and being under the impression that they were on their own side of the frontier.

France has since instructed her ambassador in Berlin to invite the German Government to take such steps as may be necessary to avoid these inconvenient visits in the future.

AIRSHIP SHED COMPETITION.—The Prussian War Minister announces a competition for the best hangars for dirigibles.

AMATEUR AIRMEN.—Arrangements have been concluded with 19 firms to give instruction to would-be pilots at the charge of the Committee of the National Aerial Fund. The idea is to encourage the amateur airmen.

SECRECY OF THE PRESS INVITED.—The *Norddeutsche Allgemeine Zeitung* invites the German Press to divulge no information on military matters, especially as regards aviation, which can be of use to foreign countries.

ACCIDENTS TO AIRMEN.—There was an unusually large number of accidents during April.

RECORD FLIGHT.—Two German officers flew from Jüterbog to Malente, via Berlin, Lübeck and Plön, a distance of 595 kilometres, on a Taube monoplane—a record flight for two officers.

ITALY.

The statement published in the JOURNAL for April as to the number of dirigibles which would be in possession of Italy by the end of 1913 turns out to be incorrect. The error was due to an inaccurate account published in the Italian Press by an ex-clerk of the Inspector of Aeronautical Services in Italy.

Italy has at present five dirigibles of the "P." type, two of the "M." type, and one Parseval dirigible.

An "M." type dirigible and a dirigible called the "Citta di Milano," rigid type, are now being constructed, and should be ready by the end of the year.

RUMANIA.

AVIATION.—Officers have been sent to England to take over six Koandi-Bristol aeroplanes purchased by the War Office for the Army. The Rumanian aviation league has ordered six Blériot tandems (military type) with 80-h.p. Gnome motors.

The Government is reported in the Press to intend purchasing a dirigible. Various subscriptions, etc., have been sent to the Ministry of War for aviation purposes.

RUSSIA.

FATAL ACCIDENT.—An officer-pilot, Lieutenant Perlivski, was killed at Warsaw on March 29, while flying a Nieuport monoplane.

AIR FLEET FUND.—A collection in Moscow for the Air-Fleet Fund on April 13 realized over £4,000. A similar collection at Rostov-on-Don produced £1,000.

TURKEY.

AIRSHIP.—The Government has taken over from a German firm a small Parseval airship, the price of which is said to be £30,000 payable in Treasury bonds.

THE WAR IN THE BALKAN PENINSULA.

Continued from the April number, page 564.

A. Political and General.

PEACE NEGOTIATIONS.—On April 5 the Allies accepted the mediation of the Powers asking, as conditions, that, (1) as regards Thrace, the line Enos—Midia should be taken as a basis for negotiations; (2) that the Aegean Islands should be ceded by Turkey; (3) and that the payment of a war indemnity by Turkey should be agreed to, in principle; (4) they further desired to be informed of the frontiers suggested by the Powers for Albania. On April 8 the Powers replied: (1) agreeing that the new Bulgarian frontier should run from Midia to Murrati, thence to a point east of Enos; (2) reserving their decision as to the Aegean Islands, most of which would, however, go to Greece; (3) refusing to accept the principle of a war indemnity, which must be reserved for a Commission—on which the Balkan States would be represented; (4) agreeing to inform the Allies as to the frontiers decided on for Albania as soon as they should be determined. The proposals of the Powers for mediation had already been fully accepted by Turkey on April 2.

On April 13 the Powers notified the Allies that they were ready to give their decision as to the northern and north eastern frontiers of Albania; and that the delimitation of the southern and south eastern frontiers would be communicated as soon as it was settled; they declined to give any assurance regarding a war indemnity. To this the Allies replied on April 21 that they accepted the conditions, out of desire for peace, while reserving their right to bargain further with the Powers regarding the Aegean Islands and the Thracian frontier; and again urging for consideration of their claim for an indemnity.

BULGARIA AND TURKEY.—On April 15 an agreement was signed between Bulgaria and Turkey for the cessation of hostilities at Bulair and Chatalja, on condition that the Turkish fleet should not prevent supplies reaching the Bulgarian Army between the Gulf of Saros and the Black Sea coast; in case of hostilities being resumed, 48 hours' notice was to be given on either side. The armistice has since been extended.

BULGARIA AND RUMANIA.—An agreement appears to have been reached by the Conference of Ambassadors at St. Petersburg regarding the dispute between Bulgaria and Rumania, on the following basis:—

The new frontier to run from a point on the Danube, one and a half miles west of Silistria, and make a curve round that town (which would thus become Rumanian territory) at a radius of one and a half miles till it rejoins the old frontier; the Rumanians to compensate the Bulgarian inhabitants of Silistria; Bulgaria to refrain from fortifying her new frontier between Silistria and the Black Sea.

GREECE AND THE POWERS.—According to Reuter's agency Greece was informed that neither Austria nor Italy would acquiesce in the Greek frontier in Epirus being placed so far north as to give Greece a predominant position in the Adriatic. To this Greece replied that she would willingly agree to the neutralization of the portion of the Adriatic littoral now occupied by her, from Corfu to the Bay of Gramala.

It is stated in the Press that a law has been passed sanctioning the formation of a naval arsenal where repairs can be carried out and smaller vessels, destroyers, submarines and torpedo boats can be built. A commission is to select the site of the arsenal.

The Government has given an order to Germany for six destroyers capable of doing 25 knots.

Proposals have been introduced in the Chamber to lay telegraphic and telephonic lines from Athens to Salonica and Yanina.

MONTENEGRO AND THE POWERS.—On March 28 the Powers again demanded a suspension of the operations against Scutari, to allow the civil population to leave. To this and other demands, the Montenegrin Government demurred, on the grounds of the existence of a state of war with Turkey. The Conference of Ambassadors in London then decided (April 1) on a naval demonstration. Accordingly on April 5 an international squadron consisting of two British, one French, one German, three Austrian, and two Italian war vessels, under command of Vice-Admiral C. Burney, R.N., appeared off Antivari and despatched a note to King Nicholas demanding his submission to the will of Europe. As the Montenegrin Government still declined to submit, a blockade of the coast was declared on April 10. The Russian Government declared itself in accord with these measures, although no Russian ships took part in the blockade. On April 22 news was received of the surrender of Scutari and the alleged intention of Essad Pasha to declare his independence. Public opinion in Austria was deeply stirred, and at the end of April military operations by that Power against Montenegro appeared imminent. In such a case it seemed probable that Italy would take simultaneous action in southern Albania with a view to the pacification of that country. The crisis terminated on May 4 when King Nicholas decided to yield to the inevitable and to evacuate Scutari.

RUSSIA AND THE CRISIS.—A period of serious anxiety existed at the beginning of April over the question of Scutari. Eventually, the Russian Government agreed to support the Powers in bringing pressure to bear on Montenegro, but would not go so far as to send a warship to join in the naval demonstration decided upon.

On April 10 an official communiqué was issued dealing with Russian policy in regard to the Balkan States, and to Montenegro in particular. It declared that the object of Russia had been to secure to the Balkan States the utmost results from their victories. The need for mutual concessions was insisted upon, and it was stated that, while Scutari was not vital to Montenegro, Russia considered it necessary for the preservation of peace to agree that Scutari must be incorporated into Albania. King Nicholas had been warned by Russia not to persist in opposing the wishes of the Powers; and, as he had ignored this counsel, Russia could not oppose the concerted action considered necessary by the Powers.

A remarkable manifestation of pro-Slav feeling occurred on the departure of General Dimitriev of the Bulgarian Army from St. Petersburg on March 30, and the demonstrators came into conflict with the police. On April 6 a similar demonstration was not interfered with, and a large number of officers and officials took part in the procession. Two days later, however, inspired articles in the Press showed that the Government were unmoved by the pro-Slav agitation. Further demonstrations were prohibited, and an Army Order was promulgated which forbade any officer entitled to wear uniform from taking any part in such meetings.

On the fall of Adrianople, the Bulgarian Minister of War sent a telegram to General Sukhomlinov, expressing the gratitude of the Bulgarian Army towards Russia, and attributing their success to the teaching and aid received in the past from the Russian Army.

The fall of Scutari was celebrated in St. Petersburg by a service in the Karan Cathedral. An effort by a small section of the crowd to hold a demonstration in the streets was prevented by the police.

SERVIA.—On April 12 the Skupshtina unanimously voted a supplementary war credit of 60,000,000 frs., of which 30,000,000 will be required for the upkeep of the Army until demobilization becomes possible on the delimitation of the new territories being finally settled.

On April 11 the Servian Chambers of Commerce and Industry proclaimed a boycott on Austrian goods, but it appeared improbable that it would be carried into effect.

A Bill was introduced in the Skupshtina to authorize the construction of new railways at a cost of 60,000,000 frs. Part of the work will be connected with the railways in Servia and part with joining up Servia with the Sanjak of Novi Bazar and continuing the Uskub—Mitrovitsa line up to Uvac.

OTTOMAN EMPIRE.—A veritable reign of terror has been established in Constantinople by the Government. The Press is muzzled and espionage is rife. Persons heard criticizing the Committee are immediately reported and, if of any importance, expelled from the capital by order of a court martial. On April 5, 250 arrests were made in connection with an alleged conspiracy to proclaim Prince Wahid-Ed-Din Sultan.

On March 28 a new "Law of the Administration of the Vilayets" was promulgated. It has still to receive the sanction of Parliament.

It is stated that the Government has decided to transfer certain important State institutions to Asia Minor. The Faculty of Law is to be moved from Salonica to Beirut; the naval arsenal from Constantinople to Ismid, and Government factories to Panderna and Brussa.

In the middle of April the French Lighthouse Concession was prolonged for 25 years. The company is to advance the Government £T500,000 by instalments. The first instalment of £T175,000 has been paid.

On April 18, the £2,000,000 due to Turkey from Italy as compensation for the income of the Public Debt in Tripoli was paid to the Ottoman Bank in London.

RUMANIA.—On April 16 M. Filipescu, Minister of Domains, resigned on account of his disagreement with the Government on the question of adopting extreme measures against Bulgaria.

B. Operations and Movements of Troops.

GREECE.—In consequence of Bulgaria's attitude with regard to Salonica, Greece commenced withdrawing her Army from Epirus and concentrating it in the neighbourhood of that town.

MONTENEGRO.—On March 31 the Montenegrins carried out a determined attack on Tarabosh, combined with an artillery demonstration against Bridca and Bardanjolt. They made very little progress and lost heavily. When the Servian troops were withdrawn the Montenegrins took their places.

On April 21 a general bombardment of Scutari was commenced. About midnight, on the night 22—23, Essad Pacha capitulated. It was reported in the Press that the surrender was the outcome of an arrangement between King Nicholas and Essad Pacha, by which the former agreed to recognize the latter as an independent Prince of Albania in return for the inclusion of Scutari in Montenegro. The Turks, some 26,000 strong, marched out with the honours of war and retired to Tirana.

SERVIA.—After the fall of Adrianople the two Servian divisions forming part of the investing Army returned to Servia. At the end of April they were reported to be in the neighbourhood of Pirot.

On March 31 about 15,000 Servians arrived in Greek transports at San Giovanni di Medua. On April 6 nine more transports were at Salonica ready to sail with Servian reinforcements for Montenegro, but on the 7th orders were sent from Belgrade cancelling the movements. These troops have returned to the Monastir—Koprulu district.

In consequence of the dispute with Bulgaria, Servia concentrated troops along the right bank of the Vardar. There were, at the end of April, at least four divisions in the area, Monastir—Koprulu—Ghevgheli.

The men of the *Landsturm* of the 1892, '93 and '94 classes were called up for a fortnight's training.

At the end of March and the beginning of April desultory operations were in progress south of Elbasan between Servian troops and a mixed Turkish and Albanian force, some 15,000 strong, under Djavid Pacha, who was reported to have been completely defeated on April 8.

NAVAL AND MILITARY CALENDAR.

APRIL, 1913.

- 3rd (Thurs.) Descent of Zeppelin "Z 4" at Luneville.
- 5th (Sat.) Successful raising of Russian Submarine "Minoga" off Libau.
- 9th (Wed.) Inspection by the King and Queen of the Royal Arsenal and Royal Military Academy, Woolwich.
- 18th (Fri.) Launch of H.M.S. "Nottingham" at Pembroke.
- 20th (Sun.) Launch of the battleship "Provence" at Lorient for the French Navy.
- 21st (Mon.) Launch of the battleship "Bretagne" at Brest, for the French Navy.
- 23rd (Wed.) Launch of H.M.S. "Lowestoft" at Chatham.
- " " Scutari captured by Montenegrin Forces.
- 24th (Thurs.) Launch of the "Duilio," the 6th Italian Dreadnought at Castellamare di Stabia, for the Italian Navy.
- 26th (Sat.) Royalist rising in Lisbon.
- 28th (Mon.) Review of the Brigade of Guards in Hyde Park by the King.

NOTICES OF BOOKS.

The Life of Sir David Baird. By Captain W. H. Wilkin. Allen & Co., Ltd. 305 pp. London.

This is a plain, straightforward account of the life and doings of a plain, straightforward soldier, who owed his advancement solely to sterling worth, courage, and devotion to duty, at a time when interest counted for even more than it does at the present day.

Gazetted as an ensign at the age of 14, he served for 18 years before he commanded his regiment, whereas his contemporaries, such as Sir Stapleton Cotton and the Duke of Wellington reached that rank at the ages of 22 and 24 respectively. His early years in the army would have discouraged any but the stoutest spirit. Left for dead on the disastrous field of Perambakam, with two sabre cuts in the head, a bullet in the thigh, and a pike wound in the arm, he reached the French contingent of Haidar Ali's army, only to pass nearly four years in the dungeons of Seringapatam, in daily expectation of a cruel death.

Subsequently, negligence on the part of his agent resulted in his obtaining his Lieut.-Colonelcy a few days after the Earl of Cavan and Sir John Moore, thereby losing him the command of one army in Egypt and another in Spain.

In the third Mysore War he commanded one of the brigades which took Seringapatam, and seven years later he directed the operations and personally led one of the storming parties which carried the trenches in that historic stronghold, a feat described by Lord Mornington as follows: "A more judicious operation, conducted with more heroic gallantry and spirit never was achieved," and, we may add, one for which neither Baird nor his colleagues received any honours. Following years saw him in command of an Indian expedition to Egypt, which, after experiencing great hardships, arrived on the scene only when Alexandria had capitulated to a British force under Sir John Hutchinson.

Whilst returning to England in 1803, Baird was captured by a French privateer, but was subsequently recaptured by H.M.S. "Sirius," and on arrival received a knighthood.

In 1806 he commanded a combined naval and military force which took the Cape from the Dutch, but received no reward. In 1807 he commanded a division in the attack on Copenhagen, where he was twice wounded.

Throughout his career, up to this point, the manner in which he was continually superseded by the future Duke of Wellington and his natural resentment at what he considered to be undue favouritism on the part of Lord Mornington are well brought out.

Most interesting is the account of his operations with Sir John Moore, ending in the retreat to Corunna, and though the author does not consider him a great tactician, it appears from his letter of the 8th December, 1808, that the idea of the change of base and retreat in that direction was actually suggested by him to Moore.

At Corunna his arm was shattered by a grape shot, and was removed from the shoulder joint by the surgeons without a word of complaint escaping his lips.

Sir David Baird may not have been a man of the same calibre as Wellington, but his failings make him all the more lovable, as in them

we recognize those of the best type of Englishman. We cannot do better than repeat the inscription placed in the parish church at Crieff by those who knew him in his declining years:—"Not to commemorate his martial achievements, for these are recorded in the annals of his country, but as their humble testimony to those excellences in his character, which they desire to see handed down to posterity, that they may be held in remembrance while there is any virtue or any praise in things that are true, and honest, and just, and pure, and lovely, and of good report."

The value of the maps is much discounted by their not opening clear of the letterpress.—W. M. ST. G. K.

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FRANCE.

REVUE MARITIME. Paris: **February, 1913.**—Reflections on the military spirit (the flag). Contraband of war. The voyage of "Le Solide" round the world.

LA VIE MARITIME. Paris: **April 10th, 1913.**—The ambitions of the Triple Alliance in the Mediterranean. Accidents to destroyers. A new Arctic expedition. **April 25th.**—Some judicious reforms. The Direction of Artillery in the Ministry of Marine.

MONITEUR DE LA FLOTTE. Paris: **April 5th, 1913.**—Mr. Winston Churchill's speech. **April 12th.**—Questions under discussion (personnel, new construction, arsenals). **April 19th.**—The habitability of warships. The pay of officers. **April 26th.**—The British Naval Budget. Naval aviation. Launch of the "Provence" and the "Bretagne."

LE YACHT. Paris: **April 5th, 1913.**—The recruitment of naval personnel. Submarines of the United States. Stations of French War Vessels, April 1st. **April 12th.**—Diesel motors. **April 19th.**—Injuries to motors on board submarines. The submarine "Mariotte." **April 26th.**—The increase in the naval programme. The increase of calibre in the armament of modern battleships.

GERMANY.

MARINE RUNDSCHAU. Berlin: **April, 1913.**—The British battle cruiser "Princess Royal." The probability of hitting with torpedoes. French views on the rôle of the French fleet in war. The treatment of wounds in naval warfare. The competition for the Kaiser's Prize for the best German aeroplane motor. The probable competition between the Suez and Panama Canals. The Italian Naval Budget, 1913-14. The Balkan War. Survey operations by the German Navy in 1911-12.

ITALY.

RIVISTA MARITTIMA. Rome: **March, 1913.**—Naval strategy according to the works of Mr. Julian Corbett, and Admiral Mahan. Aeroplanes and dirigibles.

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MILITARY.

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DANZER'S ARMEE ZEITUNG. Vienna: No. 14 (April 3rd), 1913.—Army administration and Croatian demands: a Magyar intrigue. Turkish volunteer battalions. The Army and political economy (the duties of the State towards the recruit). Barrier forts from a fortress artillery point of view. No. 15.—Austria's position and task in the coming European war. The fighting in South Dalmatia (1869-70 and 1881-82). No. 16.—Our Balkan Army (a word to our comrades of the XVth Army Corps). The railways of Bosnia-Herzegovina (with map). The action at Assaba (Tripoli), March 23rd, 1913. No. 17.—The real importance of the Pragmatic Sanction (1713). An open letter to Capt. Persius (in reply to an article on Austrian naval affairs in the *Berliner Tageblatt*). A concession for man-hunting in Austria (emigration agents of the Canadian Pacific Company, and their methods).

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KAVALLERISTISCHE MONATSHEFTE. Vienna: April, 1913.—General Fischer von Wellenborn (brief biographical sketch). History of the Ulanen Regiment, Emperor Alexander III. of Russia (West Prussia). Prussian cavalry during the retreat of the allies, after the battle of Gross-Görschen, May 2nd—4th, 1813. Austrian cavalry in 1813 (organization, armament, equipment and training). Proposals for training cavalry officers in working of patrols. Cavalry divisions in peace: a reply (to an article by General Bernhardt in the *Tag*). The long-distance patrol training of the 17th Japanese Cavalry Regiment in 1911. Hunting and the new equitation manual. The Servian cavalry in the Balkan War. The proposals of the Kompagniereiter-Gesellschaft. The Felsöleperd stud.

FRANCE.

REVUE MILITAIRE DES ARMÉES ÉTRANGÈRES. Paris: March, 1913.—The German Imperial Manceuvres, 1912.† New Regulations of the Russian Army.† April.—New Regulations of the Russian Army† The Austro-Hungarian Grand Manceuvres, 1912. The Armies of Spain and Portugal in 1913.

JOURNAL DES SCIENCES MILITAIRES, Paris: April 1st, 1913.—Naval operations in the Turco-Italian War, 1911-12.* The question of forming the French cavalry in divisions. The exercise of command.* The divisional surgeon.§ A proposed method of cavalry training.§ April 15th.—Sketch of the campaign in Thrace.* A study of the consequences of the reorganization of the cavalry.* Naval operations in the Turco-Italian War, 1911-12.§ Preparations for defeat (condition of the French Army, 1867-70).

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GERMANY.

MILITÄR WOCHENBLATT. Berlin: No. 28 (March 1st), 1913.—Calendar for March, 1813† (continued in No. 35). The task of the First German Army, August 2nd to 9th, 1870 (concluded in No. 29). Sketch of the military geography of Hungary (continued in Nos. 29, 30, and concluded in No. 31). No. 30.—Emperor William I. and the courts of honour. The Balkan War (XI.). No. 31.—Machine guns and ordnance. The training of our reserve officers. No. 32.—With the army of the Crown Prince from Nachod to Schweinschädel. Simplification of the system of control in the district staffs (concluded in No. 33). Horse breeding in Prussia. No. 33.—Notes on the French Army (continued in Nos. 34, 35, and concluded in No. 36). Care of the sick and wounded in the Balkan War.† Notes on the Belgian Army. No. 34.—Progress in aeronautics between 1908 and 1912—its military significance. No. 35.—Company inspections. No. 36.—The value of the fortified positions of Rumania as a factor in the defence of the country. A note on the French artillery (concluded in No. 37). The United States Army at the end of 1912 (continued in No. 39). No. 39.—The question of organizing our cavalry in divisions in time of peace. Field and foot artillery officers in France. No. 40.—Aerial reconnaissance in the field. A substitute for machine-guns in the Danish infantry (automatic rifles). The Balkan War (XII.). No. 41.—The new Army Bill. No. 42, April 1st, 1913.—Calendar for April, 1813 (continued in No. 48). Machine-guns in the infantry attack (concluded in No. 43). The Balkan War.† No. 43.—Notes on the new Army Bill (continued in Nos. 45, 46, 47). Movements of troops previous to the beginning of the campaign in the spring of 1813, and the action at Möckern-Dannigkow on April 5th (concluded in No. 44). No. 44.—The Bill for the re-introduction of three years' service in the French Army (continued in No. 45). No. 45.—The development of the armed strength of Austria-Hungary. No. 46.—Notes on wireless telegraphy.

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JAHREBUCHER FÜR DIE DEUTSCHE ARMEE UND MARINE. Berlin: **March, 1913.**—The centenary of the War of Liberation. § Russian infantry tactics, past and present. Infantry defence: its disadvantages and how to obviate them. Punishment battalions. Mustering and levying.

INTERNATIONALE REVUE UBER DIE GESAMTEN ARMEEN UND FLOTTE. Cologne: **March, 1913.**—GERMANY.—The German Navy in 1912. Organization of submarines. FRANCE.—The new cadre laws for infantry and cavalry. Manœuvres, 1913. The recent autumn manœuvres of the French Navy in the Mediterranean. GREAT BRITAIN.—The British Navy in 1912. The new distribution of the British Naval force in the North Sea for 1913. ITALY.—The new shipbuilding programme. AUSTRIA-HUNGARY.—The increase in the Austro-Hungarian field artillery. RUSSIA.—The present state of higher military education in the Corps of Officers. UNITED STATES.—The Annual Report of the Secretary for the Navy. **General.**—The Navies of the great Powers. **French Supplement, No. 168.**—Lessons to be learned from the success of the Japanese torpedo boats in the Russo-Japanese War. The reasons of the Turkish defeats. Krupp guns for submarines (with four plates). The Italian Navy during the Turco-Italian War, 1911-12. **German Supplement, No. 148.**—The re-organization of the Swiss medical service.

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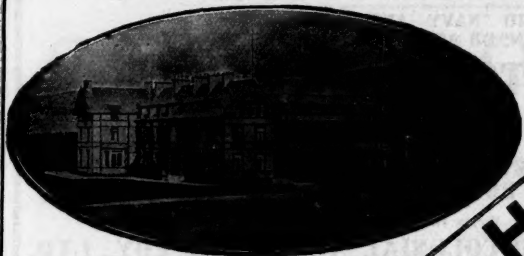
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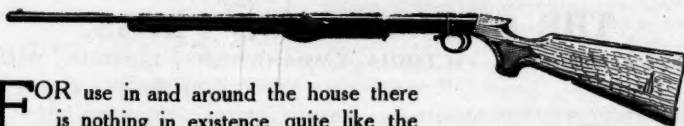
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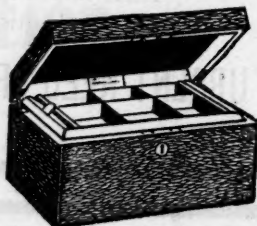
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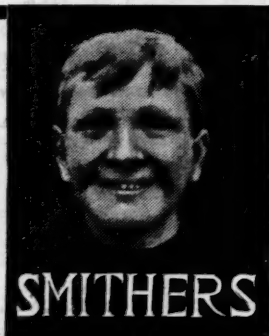
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